PCC

May

1974


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## Price Increase?

*Well, probably. Beginning with September 1974 issue, the price will probably be $5 a year. For your 5 bucks, you will get five regular issues plus one or two special issues (like this year's "The Computer and the Artist," coming in June 1974).*

*But, until further notice, we will continue to accept renewals and new subscriptions at the old price of $4.*

*People's Computer Company P.O. Box 310 Menlo Park, Ca. 94025*

## Subscriptions

*Name* _____

*Address* _____

_____

*zip*

☐ *Here's $2. Send me all 5 issues of Volume 1, October '72 through May '73.*

☐ *$4 enclosed. Sign me up for Volume 2, September 1973 through June 1974.*

☐ *$4 enclosed. I am subscribing for 1974–75 school year. Start my sbuscription with the first issue in Fall 1974.*

## Sale

*Buy lots of old PCCs. Complete sets of Volume 1 (October 1972 through May 1973) available for a mere pittance.*

| | |
|---|---|
| *1 – 9 sets* | *$2 a set* |
| *10 or more sets* | *$1 a set* |

I CAUGHT HIM IN 7 GUESSES!!!
GOOD SHOT!

WANT TO PLAY AGAIN?

, old PCCs.

RENOW
E
NOW

ill

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*"For the Snark's a peculiar creature, that won't*
*Be caught in a commonplace way.*
*Do all that you know, and try all that you don't:*
*Not a chance must be wasted to-day!"*

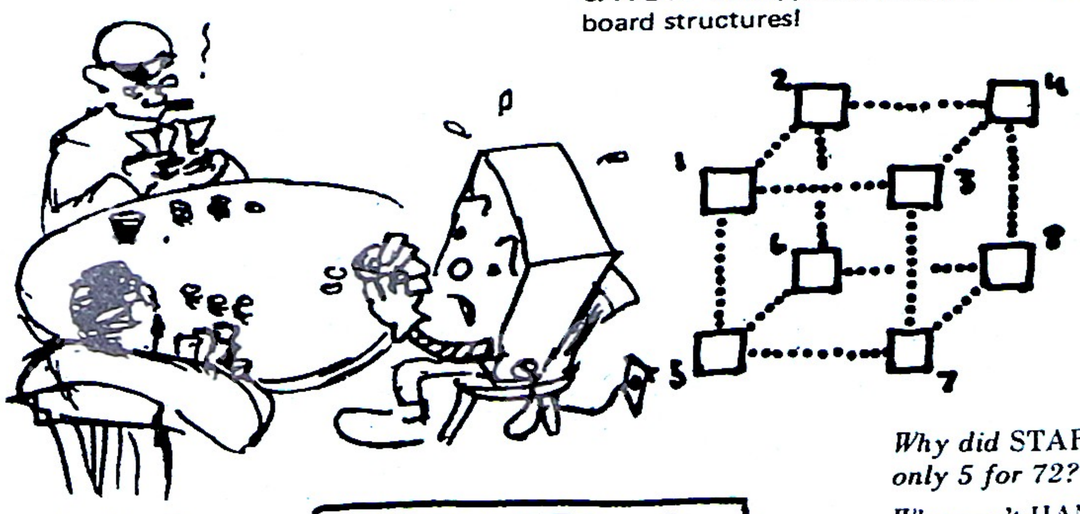
*"For, although common Snarks*
*Yet, I feel it my duty to say,*
*Some are Boojums ____ " The Bel*
*For the Baker had fainted away.*

# ~ PEOPLE'S COMPUTER CENTER ~

People's Computer Center is a funky amusement place – a place to have fun with computers. Never touched a computer? What will it do? Well, come on down and find out. We believe COMPUTERS ARE FOR PEOPLE TO PLAY WITH. Think of them as learning tools or toys for young and old. A computer is a general purpose game-box that abides by the rules you give it. We at PCC make up new games and play them all the time. You can too! What do you like? We've got lots of computer games. All sorts: Star Trek, cave exploration, logic puzzles, number guessing, whatever. A computer and your imagination can take you to a fantasy land where you can boldly match your mental skills against seemingly intelligent beings and all manner of obstacles. You may encounter strange behaving creatures which you come to accept once you discover their pattern. It is all harmless, but the challenge is there and the head stimulation can keep you on edge for hours.

## BEAT THE COMPUTER

Gamesters: Come play computer games. Learn how they work. We can arrange times and number of meetings.



WELCOME TO THE CAVES, WUMPUS LOVERS!!

Have you ever played *Hunt the Wumpus*? Wumpi live underground, slinking around the caves and caverns. But watch out for bottomless pits and superbats! Or, you can use your Wumpi sensors to track friendly Wumpi.

We'll play computer games on unusual board structures, as in *Wumpus* and *CAVES*. Later, *you'll* design *your* own board structures!

i wish i was a dodeca-hedron.

Call 323-6117 and ask for Daves of the Caves

Write computer games to amaze your friends!! Or solve useless scientific equations in five micro-seconds or less!!

Each ticket entitles you to:

- ★ 4 two-hour instruction classes with experienced PCC staff on any Tuesday, 4-6 or 7:30-9:30 pm.
- ★ 4 one-hour computer terminal times by arrangement

Learn at your own pace. For example, with a ticket you can come once a week, once every other week, or twice on the same Tuesday. Terminal time can be flexible. You don't ever miss a class because the ticket is good next week (for a two month period).

Tickets: $20 each.

*Looking for an interesting place to visit Friday night?*

*Between 7 and 10 pm, our doors are open and for only one dollar (half if you're in 8th grade or younger) you can play*

*Games! Games! There are board games, there are computer games – sometimes we even have people games.*

FRI

★GAMES NIGHT: 7—10★

COMPUTER GAMES
- STAR TREK
- MUGWUMP
- HURKLE
- CAVES
- STARS
- BAGELS
- STAR TRADER
- REVERSE

BOARD GAMES
- GO
- GRAVITY TRAP
- CHESS
- TAU
- CONFRONTATION
- SMESS
- CUBIC
- IMPASSE

*Why did* STARS *print 6 stars for 71 but only 5 for 72?*

*Why can't* HAMURABI *plant all of his land?*

*Why did my* LUNAR *module crash and blast a new crater 51.3 miles in diameter?*

REVERSE, TAXMAN, *and lot's more – What makes them tick?*

*Tick Tick – What Makes Them Tick?*

*Maybe* HAMURABI *should be democratically controlled or how about* CHOMP*ing a donut, instead of a cookie, or suppose the object of* STARS *is to get 4 stars and if you guess the number you lose, or . . .*

Contact the TICKMAN now at 323-6117

Hours to be arranged

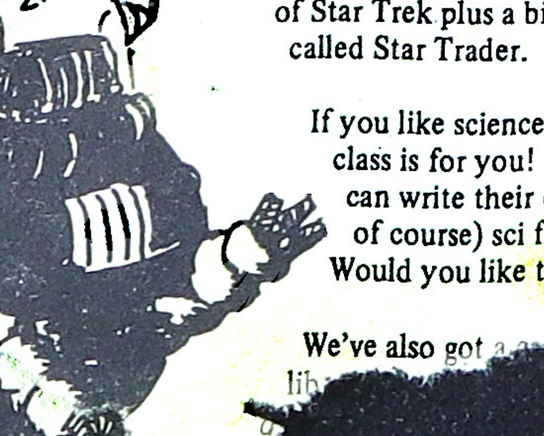
## Basic and Up

*How about reserving the Center for a party?*

*We have lots of games for kids of all ages.*

*Afternoon, evening, or night – check if the Center is available.*

*Call 323-6117*



## potluck dinner

Bring your favorite dish, a bottle of wine, or a sixpack of coke and join us for our weekly get together.

P.S. – If you arrive too late, the food may be gone.

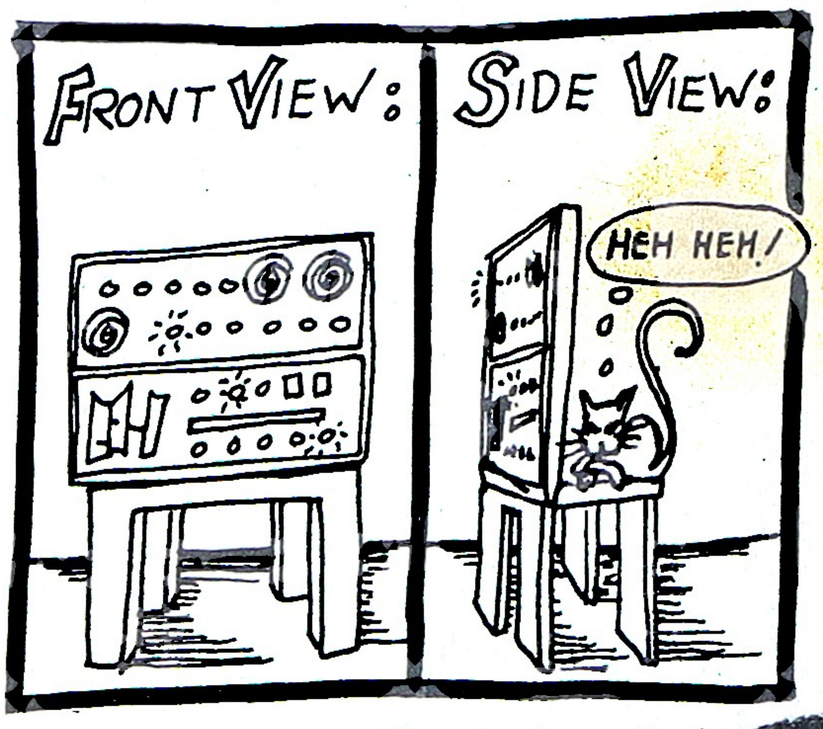
Wednesdays 6:00 - 8:00

## Computer Hardware Class

Wednesdays 7:30 - 9:00

An informal, *free* class about the innards of computers. We may even build some stuff.

*Please call us, 323-6117, before coming to check if the class has space.*




## ReNt TiMe

Terminal time cost per hour grows bigger as you grow bigger.

$1/HOUR
up through
grade 8

$2/HOUR
High School

$3/HOUR
Beyond HS

Call us, 323-6117, before coming by.



We have two computerized game versions of Star Trek plus a big, instellar game called Star Trader.

If you like science fiction, then this class is for you! Our computers can write their own (original – of course) sci fi stories. Would you like to learn how?

We've also got a [illegible] lib[illegible]

The Center is located at 1919 Menalto Avenue (on the [illegible]
We are open Monday through Saturday (cl[illegible]
close around 6PM. Our late evening h[illegible]
the day. No previous experience [illegible]

# Snark

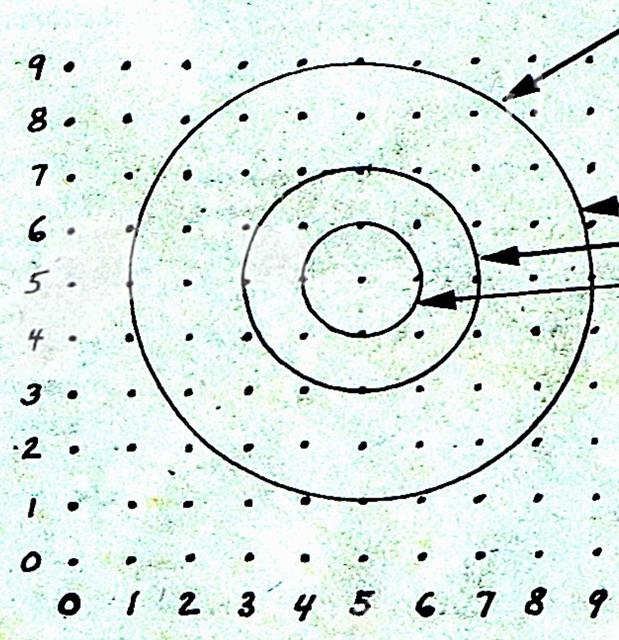
Snark? Inspiration from *The Hunting of the Snark* by Lewis Carroll. Want to know more? Read *The Annotated Snark* by Martin Gardner.

*Annotated Snark* by Martin Gardner,
a Bramhall House book
from Crown Publishers, Inc.
419 Park Avenue South
New York, N.Y. 10016

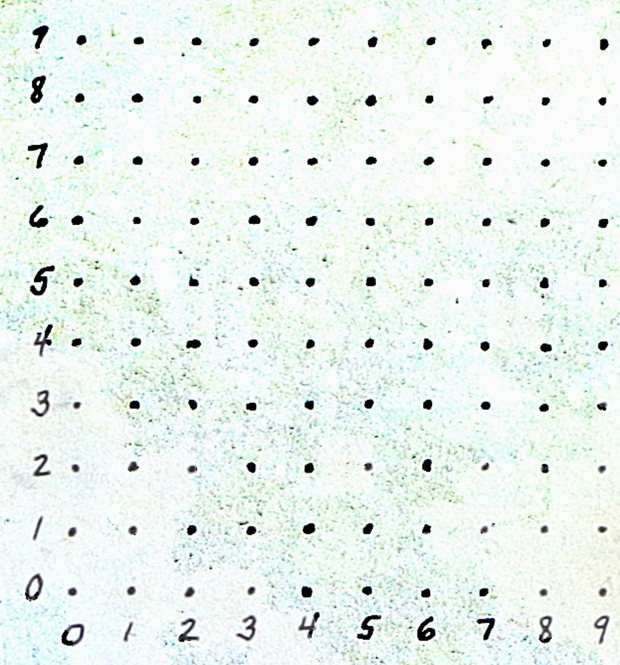
```
RUN
SNARK

WANT THE RULES?YES

A SNARK IS HIDING IN A 10 BY 10 GRID LIKE THE ONE
SHOWN BELOW:

 Y
 9     . . . . . . . . . .
 8     . . . . . . . . . .
 7     . . . . . . . . . .
 6     . . . . . . . . . .
 5     . . . . . . . . . .
 4     . . . . . . . . . .
 3     . . . . . . . . . .
 2     . . . . . . . . . .
 1     . . . . . . . . . .
 0     . . . . . . . . . .

       0 1 2 3 4 5 6 7 8 9 X

TRY TO CATCH HIM. HERE'S HOW ... WHEN I ASK, YOU TYPE
THE X,Y COORDINATES OF A GRIDPOINT (IF YOU DON'T KNOW
WHAT THAT MEANS, ASK SOMEONE!) AND PRESS THE RETURN
KEY. THEN, WHEN I ASK FOR 'RADIUS', YOU TYPE THE RADIUS
OF A CIRCLE CENTERED ON THE GRIDPOINT WHOSE X,Y
COORDINATES YOU JUST ENTERED. I WILL THEN TELL YOU
WHETHER THE SNARK IS 'INSIDE' YOUR CIRCLE, 'OUTSIDE'
YOUR CIRCLE, OR 'ON' YOUR CIRCLE.

!!! IMPORTANT !!! IF YOU THINK YOU KNOW WHERE HE IS
HIDING, ENTER 0 (ZERO) AS THE RADIUS. GOOD HUNTING.


SNARK IS HIDING ... START GUESSING!

COORDINATES?5,5
RADIUS?4
SNARK IS INSIDE YOUR CIRCLE

COORDINATES?5,5
RADIUS?2
SNARK IS INSIDE YOUR CIRCLE

COORDINATES?5,5
RADIUS?1
SNARK IS ON YOUR CIRCLE

COORDINATES?6,5
RADIUS?0
SNARK IS OUTSIDE YOUR CIRCLE

COORDINATES?5,6
RADIUS?0
SNARK IS OUTSIDE YOUR CIRCLE

COORDINATES?4,5
RADIUS?0

YOU CAUGHT HIM IN 6    GUESSES!!!
GOOD SHOW!

WANT TO PLAY AGAIN?YES


SNARK IS HIDING ... START GUESSING!

COORDINATES?0,0
RADIUS?7
SNARK IS OUTSIDE YOUR CIRCLE

COORDINATES?0,9
RADIUS?7
SNARK IS INSIDE YOUR CIRCLE

COORDINATES?0,9
RADIUS?4
SNARK IS OUTSIDE YOUR CIRCLE

COORDINATES?5,6
RADIUS?1
SNARK IS OUTSIDE YOUR CIRCLE

COORDINATES?6,8
RADIUS?1
SNARK IS ON YOUR CIRCLE

COORDINATES?3,9
RADIUS?3
SNARK IS ON YOUR CIRCLE

COORDINATES?6,9
RADIUS?0

YOU CAUGHT HIM IN 7    GUESSES!!!
GOOD SHOW!

WANT TO PLAY AGAIN?
```

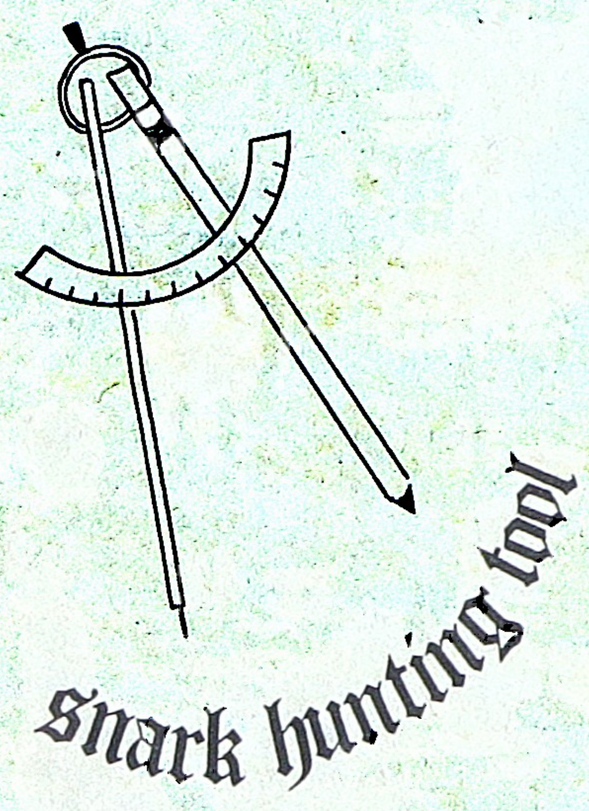
*"Just the place for a Snark!" the Bellman cried,*
*As he landed his crew with ease;*
*Supporting each man on the top of the tide*
*By a finger entwined in his hair.*

*"Just the place for a Snark! I have said it twice:*
*That alone should encourage the crew.*
*Just the place for a Snark! I have said it thrice:*
*What I tell you three times is true."*




Your turn – you draw the circles for the 2nd game. But perhaps you would first like to copy the grid for future Snark hunts.





*"For the Snark's a peculiar creature, that won't*
*Be caught in a commonplace way.*
*Do all that you know, and try all that you don't:*
*Not a chance must be wasted to-day!"*



*"For, although common Snarks do no manner of harm,*
*Yet, I feel it my duty to say,*
*Some are Boojums ____" The Bellman broke off in alarm,*
*For the Baker had fainted away.*

# BOOK LOOKING

**Computers Are For Kids — An Introduction to the Uses of Computers in Secondary Schools.**

*Available free from Digital Equipment Corporation*
*Software Distribution Center*
*Maynard, Mass. 01754*

It's sales literature but it will really help you if you're trying to convince a school board or other teachers that computers have a place in the classroom. It has graphs and charts, quotable quotes, sources of information, a nice visual/verbal explanation of what it means to use computers in: Problem-Solving, Simulation, Drill and Practice, Computer Science, Career Education and, of course, Administrative applications.

It's good and it's free — you should get it!

---

*Bob Albrecht should be the one reviewing these two books. But when he discovered that many of the programs and much of the material was his original writing reproduced by DEC he thought it would be unfair to give his own material RAVE REVIEWS, so he asked me to!!*

LeRoy

**Getting Started in Classroom Computing** *by David Ahl*

*$1.50* *Digital Equipment Corporation*
*Software Distribution Center*
*Maynard, Mass. 01754*

The Preface says, "This little booklet is designed to help you take your first steps in learning about computers and how to use them . . . the six examples . . . of classroom usage are games. Why games? Because they motivate, they increase curiosity, they encourage inquiry and they make learning fun."

We couldn't have said it better. The six games are detailed with cute ideas on how to use them in your classroom. They include:

**SECRET CODES — making messages on paper tape**
**GUESS**
**HURKLE** **Do these look familiar? See past issues of PCC**
**BAGELS** **for our detailed explanation.**
**CAVES**
**ANIMAL — a fun game that gives young kids a chance to interact with the computer using a familiar topic - zoo animals.**

Dave Ahl sez this book is good for grades 2–7. Two? Yes, young kids love secret codes sez he. It's a good book for $1.50 (how could it be bad?). You should get it.

---

**Understanding Mathematics and Logic Using BASIC Computer Games** *by David Ahl and acknowledged others.*

*$1.50* *Digital Equipment Corporation*
*Software Distribution Center*
*Maynard, Mass. 01754*

Originally designed to supplement *101 BASIC Computer Games* this book turned into a 60 page teacher's guide, student workbook and resource manual. It essentially leads a student who knows BASIC into game writing. It starts with an easy game like GUESS, leads the student to write a program like LETTER, then TRAP, then STARS and then an even more difficult searching game. Eight exercises in all. (That's Chapter 1.)

From then on it's lots of familiar games that will challenge your students. The huge list includes 23 Matches, Battle of Numbers, NIM, LIFE, BAGELS, HURKLE, MUGWMP, BATTLE, REVERSE and on and on.

*Note: This book leads kids into writing computer games. It explains how the game works (not the program) and the students write the actual program. It's the only book I've seen that uses this approach, though we've been using the approach without the book for years.*

If you can't see the value of using game programming to challenge your students then this book is *not* for you. But if you realize that games require as much skill (if not more) to program as Payroll, and they're fun to do, then you should get this book. Never again will my students take anything but game writing programming exams. Might as well let them enjoy the aggravation of a test!

**Serious Games** *by Clark C. Abt*

*available from The Viking Press, Inc.*
*625 Madison Avenue*
*New York, NY 10022*

Read this book to find out *why* to play games and simulation games in or out of the classroom. bo.

*"Simulation games stimulate, reward, and judge intuitions according to pragmatic standards rather than doctrinal ones. Enlightening intuitions are rewarded for their superior problem-solving speed over systematic analysis. False intuitions prove to be ineffective in game play. The ideal problem-solving strategy that emerges for most players combines intuition and analysis — analysis used to check intuition, and intuition used to extend analysis beyond familiar limits."*

* * * * *

*"Individual instruction is aided by the many decision alternatives that must be confronted by the players in any effective educational game. Even relatively simple simulation games are sufficiently rich in content to provide several different levels of learning simultaneously to students of different abilities. The slow learners will concentrate on the concrete, static elements of the game. The moderately fast learners will develop concepts of cause and effect and attempt to apply them. The most advanced learners will consider the strategic interactions of several parallel causal chains."*

CONTENTS


**The Reunion of Action and Thought**
What are games? The serious game in industry, education, and government. Games and knowledge. Games as motivation and communication. Role-playing.

**Improving Education with Games**
The gap between education and life. Student motivation. Simulating complex processes. Conflict strategies. Intuitive problem-solving. How students learn from each other. Developing social behavior. Games as a measure of untested abilities. Involving the student in game design and preparation. Selecting topics for classroom games. The teacher as observer, analyst, critic. Post-mortem game analysis. Timing of classroom games.

**Educational Games for the Physical and Social Sciences.**
Differences between games for the social studies and for the sciences. Games for elementary science. Mathematical games. The importance of decision-making in social-studies games. Elements common to social studies and to games. War games. Moral questions raised by games and discussed by the students. Various "hunting" games simulating primitive cultures.

**Game Learning and Disadvantaged Groups**
Problems of ghetto children in the educational world. How game dynamics can reduce cultural barriers and student apathy. Tailoring games to particular levels of intelligence and aptitude. Game-playing as an immediate reward. The supportive role of the teacher. "Raid," a classroom game in which students play the roles of police, racketeers, and the city population. "Manchester," a game about the Industrial Revolution in England. "Neighborhood," a game illustrating urban growth.

**Games for Occupational Choice and Training**
Guidelines for developing games simulating specific occupations to help students choose careers.

**Games for Planning and Problem-Solving in Government and Industry**
Games as a mode of experimenting with different strategies in solving a problem. The importance of role-playing. Three games for government: "Corridor," exploring alternative plans for Northeast Corridor transportation; "Politica," portraying a prerevolutionary crisis in Latin America and "Simpolis," dealing with urban problems. Three games for industry: "Merger," concerning industrial mergers; "Superb," in which players assume the roles of supermarket executives; and "Supra," another supermarket game designed to train players in scientific purchasing.

**How to Think with Games by Designing Them**
How games can be developed to clarify personal or domestic problems. Identifying the actors' objectives. The importance of empathy in resolving conflicts.

**How to Evaluate the Cost-Effectiveness of Games**
Criteria for assessing the value of games as compared to other instructional and research methods. Active involvement of players. Realism of situation. Clarity of consequences. "Playability" in terms of materials, space, and time required.

**The Future of Serious Games**
The uses of games in a technological society. Increased demands on the schools. Making education more effective in the ghettos and rural slums. "Laboratory schools" of the future. The teacher shortage. Education needed for adult dropouts. Games for community-action planning. Training games for police academies. Involving the poor and the disadvantaged in society. A new language of action.

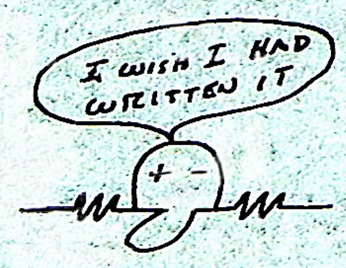
# A Guided Tour of Computer Programming in BASIC

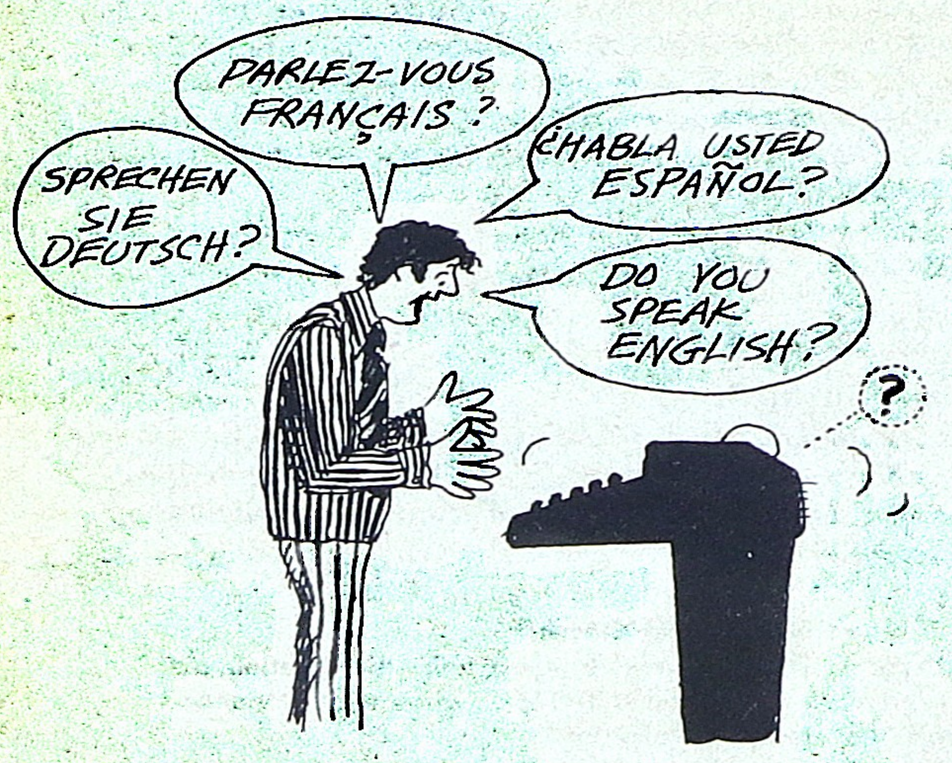
**A Guided Tour of Computer Programming in BASIC** *by Thomas A. Dwyer and Michael S. Kaufman*

*available from* *Houghton Mifflin Company*
*110 Tremont Street*
*Boston, MA 02107*

*People price* $3.60
*School price* $2.70

If you are a 12 year old dragon and want to learn BASIC, get this book and begin! But don't be surprised if older dragons start looking over your shoulder . . . this is a fine get-started book for *anyone* who wants to learn BASIC. When you are finished with *A Guided Tour* . . . you will be ready to go it alone and learn about STRINGS and FILES and MAT statements and other exotic features of the BASIC language. *ba*




This book is divided into four parts:

**PART 1** will tell you a little about computers and what to expect of them. It will also show you how to get the computer ready to "talk" to you (this is sometimes called *logging in*).

**PARTS 2 AND 3** form the main part of the tour. They show you how to write computer programs. A *program* is a list of instructions that makes the computer work for you, following your wishes with great precision and speed.

**PART 4** is where the fun begins. It introduces you to professional computer applications, including such things as an airline reservation system, automated game playing, and a program that "writes" payroll records.

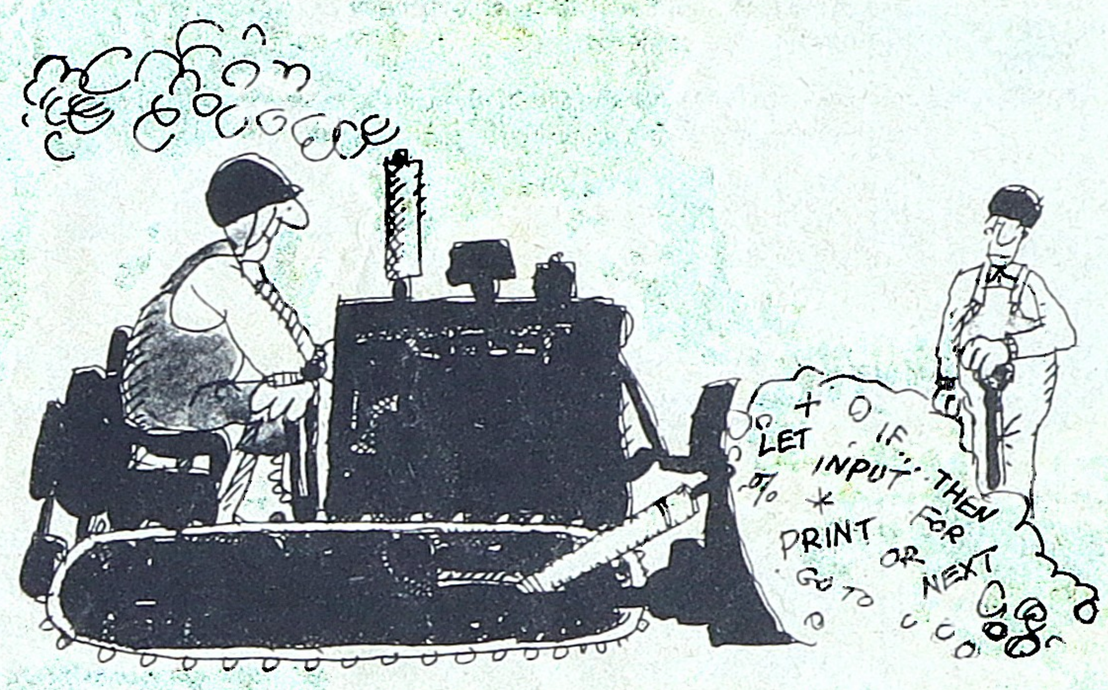


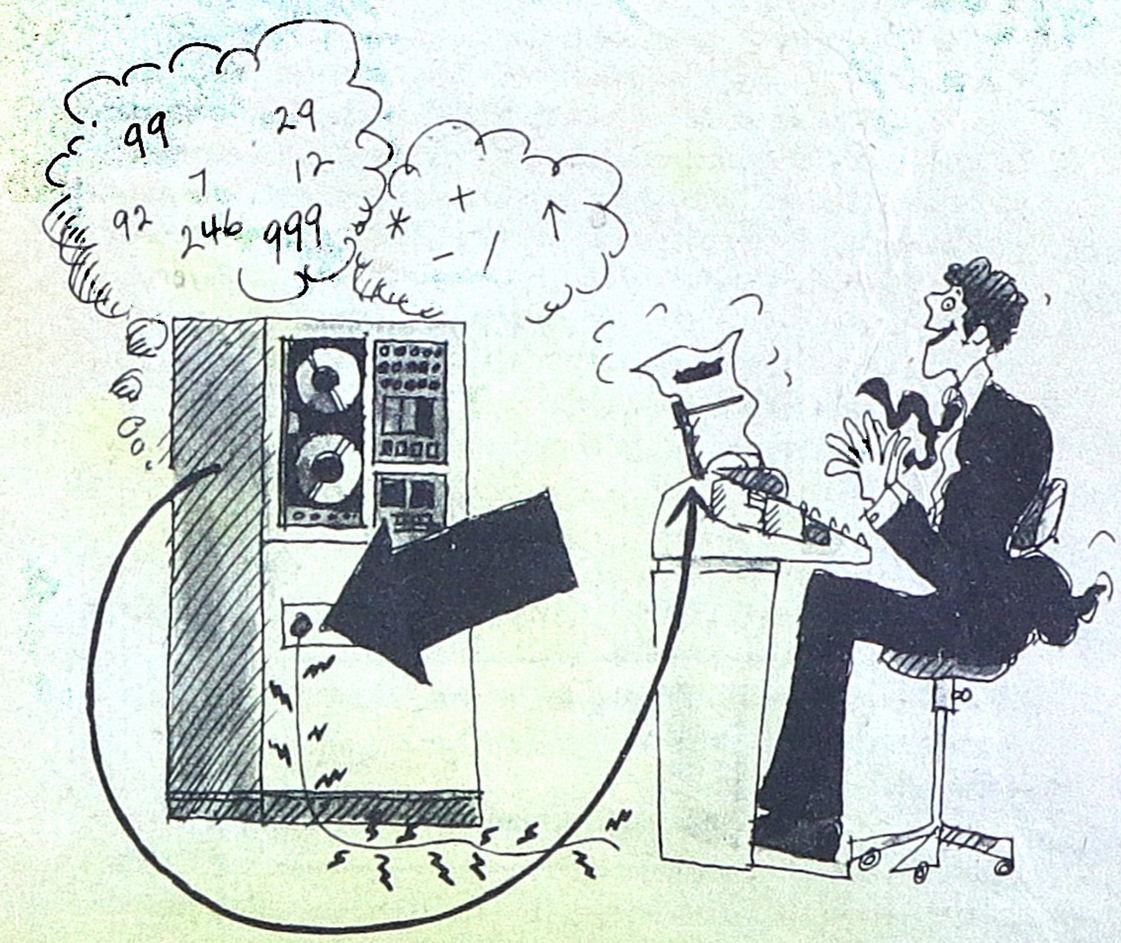
## 3–1 BASIC Bulldozers

This marks the mid-point of our tour, and congratulations are in order. You can now handle input (INPUT), output (PRINT), branching (GOTO), conditional branching (IF . . . THEN), computing and storing numbers (LET), and looping (FOR-NEXT). Theoretically, just about any programming problem can be handled with this fundamental set of key words.

Of course, it's also "theoretically" true that one can move any amount of earth with a shovel, given enough ambition. However, in practice there are times when having a bulldozer available can make life much more pleasant.

This is the bulldozer part of the book — the place where advanced features of BASIC will be explained in order that complicated programming problems can be handled without backbreaking labor.




A CRUCIAL DIFFERENCE

H8, an ordinary variable, is *not* the same as H(8), a subscripted variable. The difference is something like that between the name

HENRY EIGHT ← This is like an ordinary variable. "Eight" is just part of this man's name.

and the name

HENRY THE EIGHTH ↑ This is like a subscripted variable. The name tells us we have a whole collection of Henrys (who were Kings of England), and that *this* man is the eighth one — the eighth King of England named Henry.

# The Guns of Avalon
## by Roger Zelazny

*Nine Princes in Amber* began the story of AMBER, that place which is *the one true Earth.* All other worlds, of which ours is one, are reflections of AMBER. They are the shadow worlds, amongst which only a Prince or Princess of the Blood can travel.

The walk is an exercise of will, of moving towards a desired destination. The world *changes* as they travel, until the particular world desired, is attained.

Corwin, the main character in both books, is one of the nine Princes, sons of Oberon, king in AMBER. Barring unnatural circumstances, they are immortal.

Oberon has been missing for several centuries and is presumed dead by his sons. Eric, hated brother of Corwin, has crowned himself king and publicly humiliated Corwin at the coronation.

How Corwin escaped Eric's imprisonment was told in *Nine Princes. The Guns of Avalon* begins after the escape. Corwin is walking into shadows where he hopes to find AVALON, a land he once ruled and loved. There he will secure the materials for a final, successful assault on AMBER.

By choosing what he wants and walking towards it, Corwin can change the world about him until it *is* the world of his desire. And that is how he journeys.

There are now strange powers spreading their control through shadows. Powers that enslave and distort worlds as they press towards AMBER. Corwin has entered such a world while journeying to AVALON. He stays to help the local people defeat the powers that have appeared in their world.

While in the shadow of Avalon, itself a shadow, Corwin learns the source of these powers. They come from the Courts of Chaos, a mysterious focus which is somehow inherently opposed to AMBER.

When Corwin escaped, in his rage and anger, he spent his energies in a curse. It is this curse which has loosed the powers of Chaos, and it is Corwin who must find a way to defeat the increasing attacks.

While his intention is aimed at the throne, Corwin learns a piece at a time of the immense rift through all the worlds which he must, at some point, face and mend.

I am told there is to be a third book, to complete the stories of Corwin and AMBER. Roger Zelazny, if you are reading this review, when will it be ready?

–Reviewed by Dave Kaufman

Doubleday & Co., Inc.
Garden City, New York
$5.95
Cover Art : Emanuel Schongut

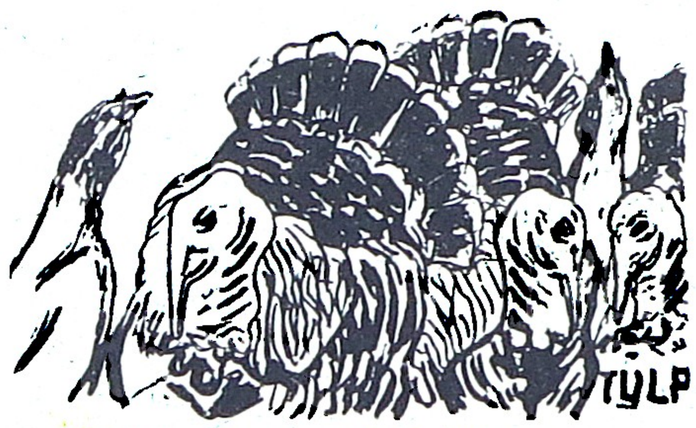
# FLYING BUFFALO

*by Richard F. Loomis*

*I have been asked to write an article explaining just exactly what it is that my company does to earn its rent money. The one question I get asked most often is, "Where did you get a name like 'Flying Buffalo'?" Since that is the easiest one to answer, I'll cover it first: I made it up.*

*Now we can get on to more important questions about what we actually do. The main purpose of my company is to moderate multi-player play-by-mail games with the assistance of a computer. (Multi-player: more than two players per game. Play-by-mail: players are scattered across the country and must mail their turns to the moderator. Moderator: one who referees or umpires the game and does not play in the game. Computer: the machine what keeps track of the games and computes the results.) An example: Our most popular game is one I designed, called "Nuclear Destruction." This is a strategic missile game where the object is to be the sole survivor of a nuclear holocaust. We advertise in magazines and newspapers, and by direct mail. When we have enought interested people (usually about 12) we start another game. We assign each of the players to a country of the world. Each country has certain assets such as missiles, money, and factories. Every two weeks, the players mail us instructions about what to do with their assets. We put these instructions into the computer, and it gives a printout for each player. This printout tells the player the current situation. (The computer does not participate in the game; it merely keeps track of what has happened.) The players exchange messages, form alliances, and at any time one player may decide to fire some or all of his missiles at any other player. It's a beautiful way to work off frustrations. (Mad at Burma? Fire 75 nuclear missiles at him!) When the game is over, each player receives or loses points according to the order in which he finished. I keep track of these points, and once every two months I print a list of the players and their point totals in my magazine. Most of the players participate in several games and try to accumulate as many points as possible. The players with the most points are awarded certificates.*

*Another wargame we moderate is called "Battle Plan." This is a more tactical game played on a map of Europe. The players have armies, air forces, navies, missiles, antimissiles, money, industry, spies, counterspies, and research capabilities. This game is a lot more complicated than "Nuclear Destruction" and you spend most of the first game just getting used to the rules. But once they learn how to handle the details, most players become fascinated with the game. We get letters saying, "I am hooked. Start me in three more games." In this game, you can eliminate your opponents by invading them with armies, destroying them with missiles, or toppling them with internal revolutions.*




FRANKLY, COPILOT, I DON'T SEE MUCH SENSE IN IT EITHER: BUT THE ORDERS WERE TO DROP OUR BOMBS ON TURKEY.

*Something different is our business game. "Board of Directors" is intended primarily as an educational game to sell to schools. For this game, a class of students is divided into ten teams. Each team takes control of an imaginary corporation manufacturing an unnamed product. Every turn, the teams make decisions about price, promotion, production, and research. The teacher mails the decisions to us, and again they are fed into our computer. The result is a listing of four financial statements for each team. This gives the students practice in reading financial statements, experience in making decisions based on unknown or partially determined factors, examples of the results of the economic factors of price and promotion, and practice in group decision making. (And also happens to be fun!)*

*I imagine there are some people who are wondering about such mundane things as what kind of computer we use. We have purchased a Raytheon 704 mini computer. It has 8K 16-bit words of memory, a one microsecond cycle time, and paper tape input and output. At present, all our results are typed out by the teletypewriter. That is awfully slow, but when we get enough customers we will be able to afford a printer of some kind. Printers cost a lot of money.*

*Aha! You've been waiting for me to mention money. Yes, we charge a fee for these games. We do have to pay for that computer. The fee for Nuclear Destruction is $3.00 per game ($0.15 for the rules). Battle Plan is $0.55 per turn ($0.50 for the rules). Board of Directors is $4 for an individual player, or $50 for a class (including a teachers guide) for an entire game of 10 turns (rules cost $0.25). If you want to see a sample copy of my magazine, it is $0.80. These prices have been adjusted for the new postal rates. If you want to try one of these write: Flying Buffalo, Inc., P.O. Box 1467, Scottsdale, Az. 85252*

*(Flying Buffalo originally was going to be the name of my stamp & coin shop. I took it from Flying Eagle pennies and Buffalo nickels. At least it was more interesting than 'Rick's Stamp & Coin Shop.' Only I never did get that store started, and I hated to waste a perfectly good name.)*

---

# Diplomacy Chess Star Trek

**OPERATION CONTACT is a nationwide communications network of game enthusiasts interested in *face-to-face* play of games and simulation games. Goals:**

- **Help people who like to play the same game find each other.**
- **Build a national referral service for the entire gaming hobby — diplomatic games, miniatures, sports and economics simulations, science fiction games, etc.**
- **Promote the growth of the adult games hobby.**

**For information, write:**

**Alister MacIntyre**
**OPERATION CONTACT**
**2729 Stratford Avenue**
**Cincinnati, OH 45220**

# Formula 1 4000 AD Monopoly

---

# PEACE Games?

We get lots of information from people who are into conflict games — war games. But we hardly ever hear from people interested in peace games.

Anybody want to help us develop a by-mail peace game?

BA

# M A N D A L A

This program has been around PCC for quite a while; Greg wrote it about a year ago for the HP 2000F. Nowadays, a version exists on our Datapoint 2200 (written about on p. 21) where the CRT (screen) features are nicely used. We had a version for our PDP 8s, written in Edusystem BASIC but it turned out to be too slow -- it would pause longer between typing characters than it took to PRINT the characters!

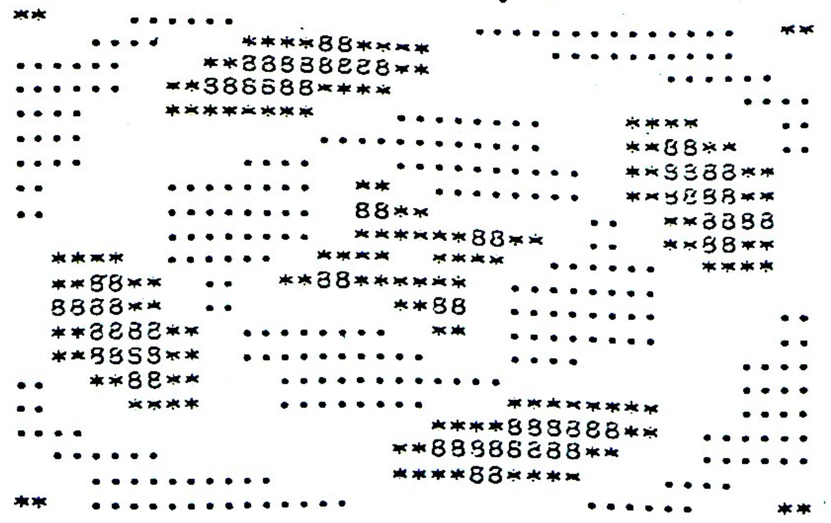
We've been hoping, eventually, to rewrite the INITIAL DIALOG section. Suggestions from any MANDALA lovers out there would be appreciated ...

Dan Kaufman,
Mandalist

Make up your own names for these Mandalas!

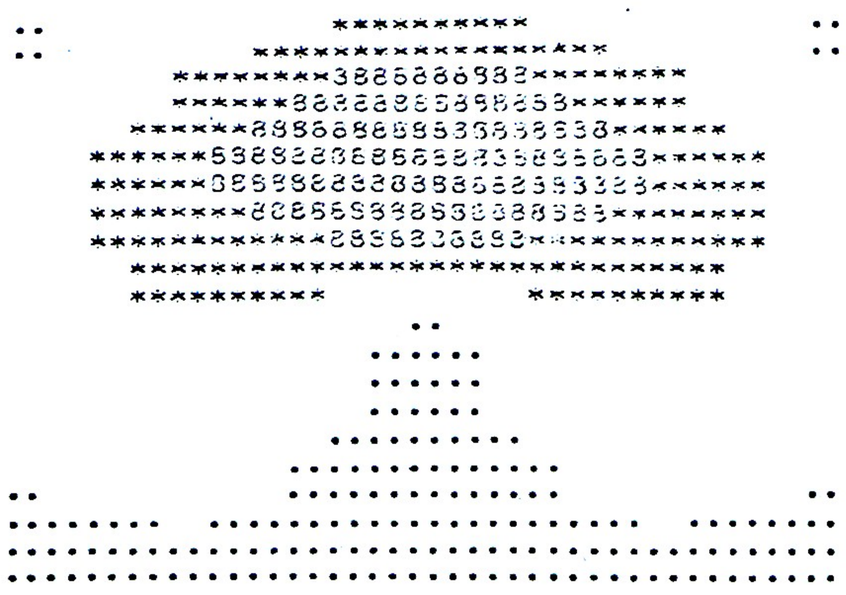
```
SIZE OF MANDALA (3-20) ?10
RADIAL FREQUENCY ?3
ANGULAR FREQUENCY ?4
THREE CONSTANTS ?7,5,3

HERE IS YOUR MANDALA :
```

Pinwheel



```
SIZE OF MANDALA (3-20) ?10
RADIAL FREQUENCY ?1
ANGULAR FREQUENCY ?1
THREE CONSTANTS ?1,1,1

HERE IS YOUR MANDALA :
```

The Mushroom

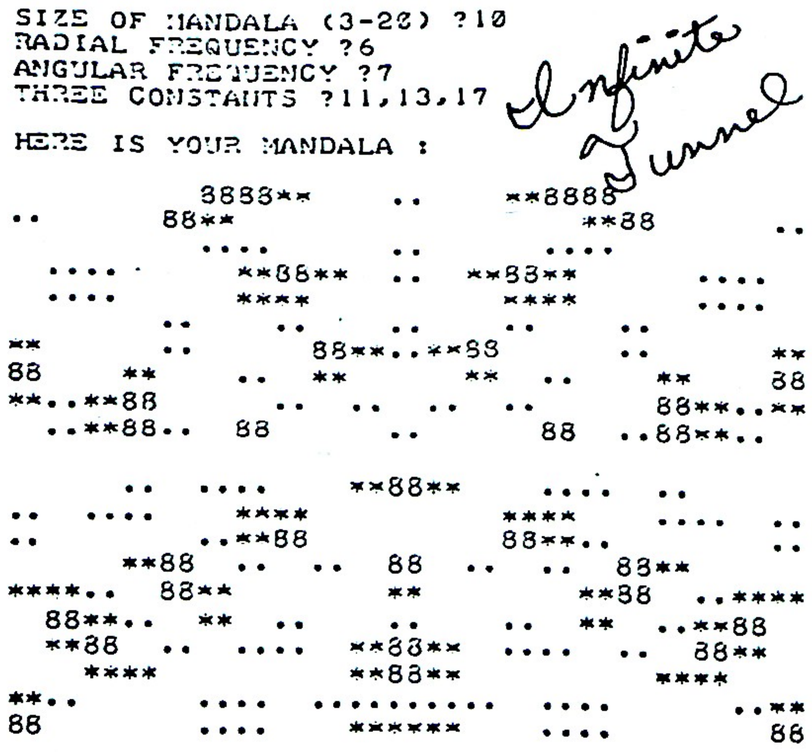


CROWN

(A-BOMB ?)

```
SIZE OF MANDALA (3-20) ?10
RADIAL FREQUENCY ?6
ANGULAR FREQUENCY ?7
THREE CONSTANTS ?11,13,17

HERE IS YOUR MANDALA :
```

Infinite Tunnel



# THE LISTING

P1 is our name for π (pi)

```
2   REM *** NEW VERSION OF MANDALA PROGRAM ***
3   REM *** PEOPLE'S COMPUTER CENTER : 11/11/73 ***
4   REM *** PROGRAMMER : MARC LE BRUN ***
5   REM *** ORIGINAL PROGRAM (MANDAL) BY GREG YOB ***
10  P1=3.14159
```

*Interlude 1*

```
100   REM *** INITIAL DIALOG ***
110   PRINT
120   PRINT "SIZE OF MANDALA (3-20) ";
130   INPUT S
140   IF S >= 3 AND S <= 20 THEN 180
150   PRINT "MANDALAS ONLY COME IN SIZES 3 THROUGH 20."
160   PRINT "SIZE ";
170   GOTO 130
180   PRINT "RADIAL FREQUENCY ";
190   INPUT F2
200   PRINT "ANGULAR FREQUENCY ";
210   INPUT F1
220   PRINT "THREE CONSTANTS ";
230   INPUT C2,C1,C3
240   PRINT
250   PRINT "HERE IS YOUR MANDALA :"
260   PRINT
```

for 72 characters per line, change upper limit to 17

*Interlude 2*

```
300   REM *** PARAMETER NORMALIZATION ***
310   F1=INT(F1+.5)
320   F2=INT(F2+.5)
330   C=C1+C2+C3
340   C1=3*C1/C
350   C2=3*C2/C
360   C3=3*C3/C
370   PRINT
```

make sure the frequencies are integers

This means 2,4,6 for three constants is the same as 1,2,3.

*Interlude 3*

```
1000  REM *** PRINTING LOOP ***
1010  FOR Y=S TO -S STEP -1
1020  Y2=Y*Y
1030  FOR X=-S TO S
1040  R=SQR(X*X+Y2)/S
1050  IF X <> 0 THEN 1080
1060  A=P1*SGN(Y)/2
1070  GOTO 1110
1080  A=ATN(Y/X)
1090  IF X>0 THEN 1110
1100  A=A+P1
1110  G1=SIN(F1*A)
1120  G2=SIN(F2*R*P1)
1130  Q=C1*G1+C2*G2+C3*G1*G2
1140  IF Q>2 THEN 1200
1150  IF Q>.8 THEN 1220
1160  IF Q<-2 THEN 1240
1170  IF Q<-.8 THEN 1260
1180  PRINT "  ";
1190  GOTO 1270
1200  PRINT "88";
1210  GOTO 1270
1220  PRINT "**";
1230  GOTO 1270
1240  PRINT "@@";
1250  GOTO 1270
1260  PRINT "..";
1270  NEXT X
1280  PRINT
1290  NEXT Y
1300  PRINT
1310  PRINT
1320  STOP
9999  END
```

this loop looks at each (X,Y) point.

the outer, Y loop, sweeps the page; each time through, a new line is begun.

the inner, X loop, sweeps the line. Each change in X is a new point.

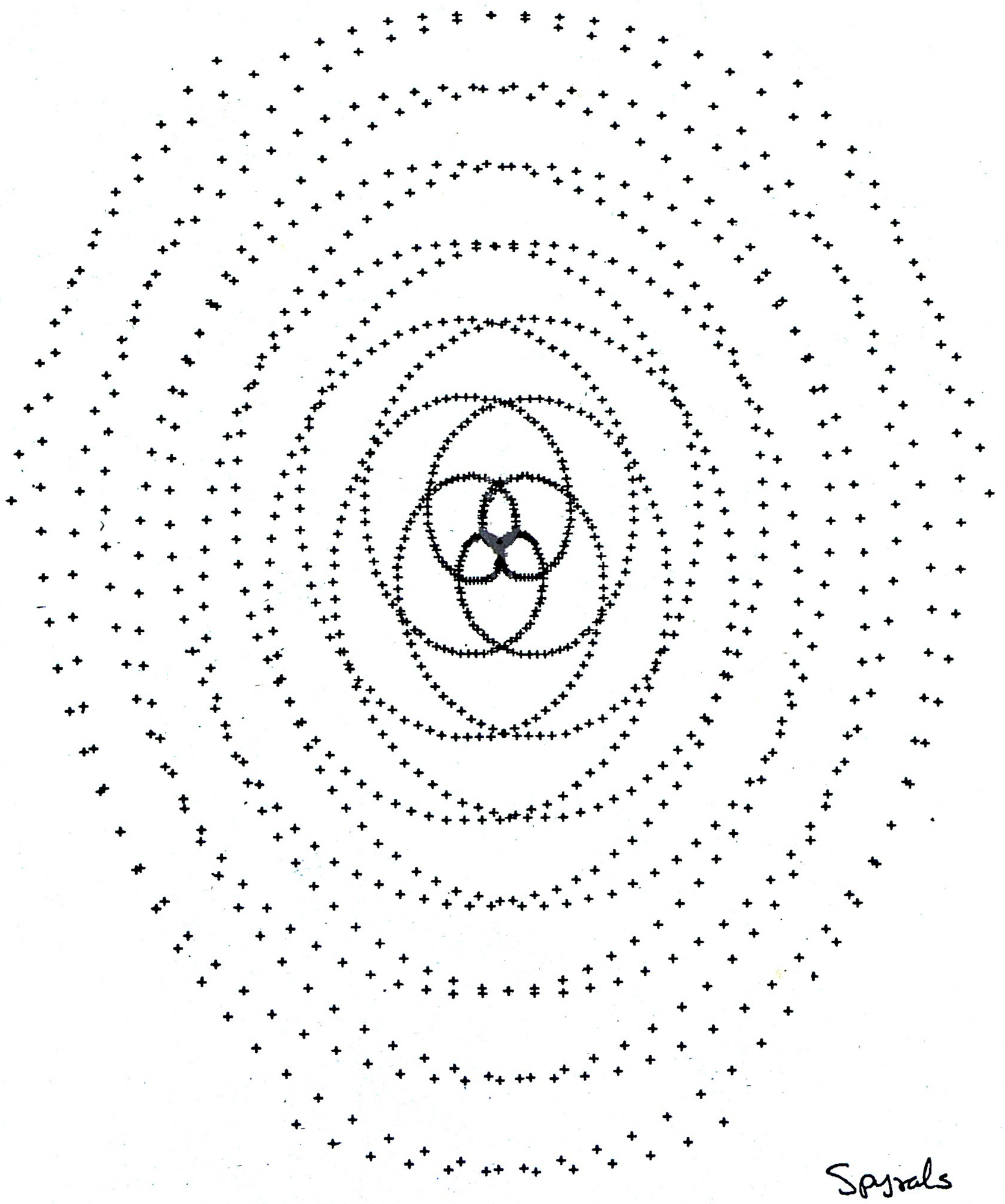
at each point, two characters are printed; this makes the MANDALA look square.

for a different set of print characters, change these

*Coming in June ...*

*A People's Computer Company Special Issue*

# THE COMPUTER AND THE ARTIST



Spirals

Gregory Yob

# BUTTON, BUTTON, WHO'S GOT THE BUTTON?

BUTTON is a game of logic with a little twist – when you get very close to the button holder, the button "slips away from you" !

As you play, ask yourself, "Is my new information about where the button is *now*, or where the button *was, one move ago*?"

Here are three games that used this idea :

```
SEVEN FRIENDS ARE SITTING IN A CIRCLE
AND YOU'RE IN THE CENTER

        1

 7          2

    YOU'RE
6     IT      3

    5      4

SOMEONE HAS THE BUTTON AND YOU HAVE TO GUESS WHO

HE CAN PASS THE BUTTON (IF HE WANTS TO)
BUT ONLY TO SOMEONE HE'S SITTING NEXT TO

IF YOU WANT TO STOP, TYPE 0 (ZERO)

GOOD LUCK   !!!

WHO DO YOU GUESS HAS IT?1
 1     :  'MY NEIGHBOR HAS IT'

...BUT WHOEVER HAS IT, PASSES IT
WHO DO YOU GUESS HAS IT?3
 3     :  'RIGHT YOU ARE - LUCKY!'

AGAIN (1=YES, 0=NO)?1
*** NEW GAME ***

WHO DO YOU GUESS HAS IT?3
 3     :  'MY NEIGHBOR HAS IT'

...BUT WHOEVER HAS IT, PASSES IT
WHO DO YOU GUESS HAS IT?5
 5     :  'WHO, ME?'

WHOEVER HAS IT, KEEPS IT
WHO DO YOU GUESS HAS IT?1
 1     :  'RIGHT YOU ARE - LUCKY!'

AGAIN (1=YES, 0=NO)?1
*** NEW GAME ***

WHO DO YOU GUESS HAS IT?1
 1     :  'WHO, ME?'

WHOEVER HAS IT, KEEPS IT
WHO DO YOU GUESS HAS IT?3
 3     :  'MY NEIGHBOR HAS IT'

...BUT WHOEVER HAS IT, PASSES IT
WHO DO YOU GUESS HAS IT?5
 5     :  'WHO, ME?'

WHOEVER HAS IT, KEEPS IT
WHO DO YOU GUESS HAS IT?3
 3     :  'RIGHT YOU ARE - LUCKY!'

AGAIN (1=YES, 0=NO)?0

DONE
```

# LISTING OF BUTTON

```
10  REM *** BUTTON, BUTTON, WHO'S GOT THE BUTTON? ***
15  REM *** WRITTEN BY * DAVE KAUFMAN * AUGUST 1973 ***
20  REM *** PEOPLE'S COMPUTER COMPANY, MENLO PARK, CALIFORNIA ***
25  REM ****************************** REM
30  REM FNM COMPUTES X MODULAR 7
35  REM FNN COMPUTES THE NEXT ONE TO GET THE BUTTON
40  DEF FNM(X)=(X=0 OR X=8)*1+(X>0 AND X<8)*X
45  DEF FNN(X)=FNM(X+SGN(RND(0)-.5))
50  GOSUB 1000
100  REM *** GAME STARTS HERE ***
110  REM B  THE ONE WHO HAS THE BUTTON
120  REM L  THE LAST ONE WHO HAD IT
130  B=INT(RND(0)*6)+2
140  L=8
150  PRINT
160  PRINT
170  REM *** GUESSING STARTS HERE ***
180  REM G  PLAYER'S GUESS
190  PRINT "WHO DO YOU GUESS HAS IT";
200  INPUT G
210  IF G=0 THEN 440
220  IF G=B THEN 433
230  IF G=L THEN 360
240  IF G=FNM(B+1) OR G=FNM(B-1) THEN 340
250  IF G>0 AND G<8 THEN 290
260  PRINT "SILLY - THERE'S NO ONE HERE BY THAT NUMBER
270  PRINT "TRY AGAIN ..."
280  GOTO 190
290  PRINT G;":  'WHO, ME?'"
300  PRINT
310  PRINT
320  PRINT "WHOEVER HAS IT, KEEPS IT"
330  GOTO 170
340  PRINT G;":  'MY NEIGHBOR HAS IT'"
350  GOTO 370
360  PRINT G;":  'I HAD IT LAST TIME'"
370  L=B
380  B=FNN(B)
390  PRINT
400  PRINT
410  PRINT "...BUT WHOEVER HAS IT, PASSES IT"
420  GOTO 170
430  PRINT G;":  'RIGHT YOU ARE - LUCKY!'"
440  REM *** AGAIN? ***
450  PRINT
460  PRINT "AGAIN (1=YES, 0=NO)";
470  INPUT G
480  IF G=0 THEN 510
490  PRINT "*** NEW GAME ***"
500  GOTO 100
510  REM *** END PROGRAM ***
520  STOP

1000  REM *** THE INTRO ***
1010  PRINT
1020  PRINT
1030  PRINT "BUTTON, BUTTON, WHO'S GOT THE BUTTON?"
1040  PRINT
1050  PRINT
1060  PRINT "SEVEN FRIENDS ARE SITTING IN A CIRCLE"
1070  PRINT "AND YOU'RE IN THE CENTER"
1080  PRINT
1090  PRINT
1100  PRINT "       1"
1110  PRINT
1120  PRINT " 7          2"
1130  PRINT
1140  PRINT "    YOU'RE"
1150  PRINT "6     IT      3"
1160  PRINT
1170  PRINT "    5      4"
1180  PRINT
1190  PRINT
1200  PRINT "SOMEONE HAS THE BUTTON AND YOU HAVE TO GUESS WHO"
1210  PRINT
1220  PRINT "HE CAN PASS THE BUTTON (IF HE WANTS TO)"
1230  PRINT "BUT ONLY TO SOMEONE HE'S SITTING NEXT TO"
1240  PRINT
1250  PRINT "IF YOU WANT TO STOP, TYPE 0 (ZERO)"
1260  PRINT
1270  PRINT "GOOD LUCK   !!!"
1280  RETURN
1290  END
```

# SOLO WORKS

**Project Solo, University of Pittsburgh, Pittsburgh, Pa. 15260**

Mr. Robert Albrecht
People's Computer Company
Menlo Park, California 94025

Dear Bob:

Thanks for the invitation to supply some information about Soloworks to your readers. I can't think of a publication I'd rather do it for, since all the Project Solo-ers are great admirers of PCC and its spirit. In fact the best way to explain Soloworks is to first say something about why we think highly of PCC. What it comes down to is this: the way in which PCC seems to combine respect for the individuality of people, a fun approach to learning, and a sense of perspective that can find humor in some of the more frustrating aspects of our society (hey Mr. Taxman!) could add up to (in our opinion) a deep view of education. And what most people don't understand is that such a view is not a frivolous one — it implies, in fact, some intensely hard work.

Soloworks is a project which is trying to apply these same principles to the study of mathematics. For one thing, we are highly respectful of the individuality of people. In particular, we think most people need a chance to make contact with rich experiences if they are to do good mathematics. As to maintaining a broad perspective, we're trying to do that by being interdisciplinary in more than a token way. While we admire the abstractions of ivory tower theoreticians, we think it's unfair to try to mold all kids in that image.

The enclosed material describes our efforts to date, and how they're based on building a high school math curriculum around five labs. As you'll note, the hard work of achieving real skills is combined with the satisfaction of carrying out fun projects. We're just getting under way, so I'll hold off saying anything about how this all works until next year. Maybe we can send you some more stuff by then.

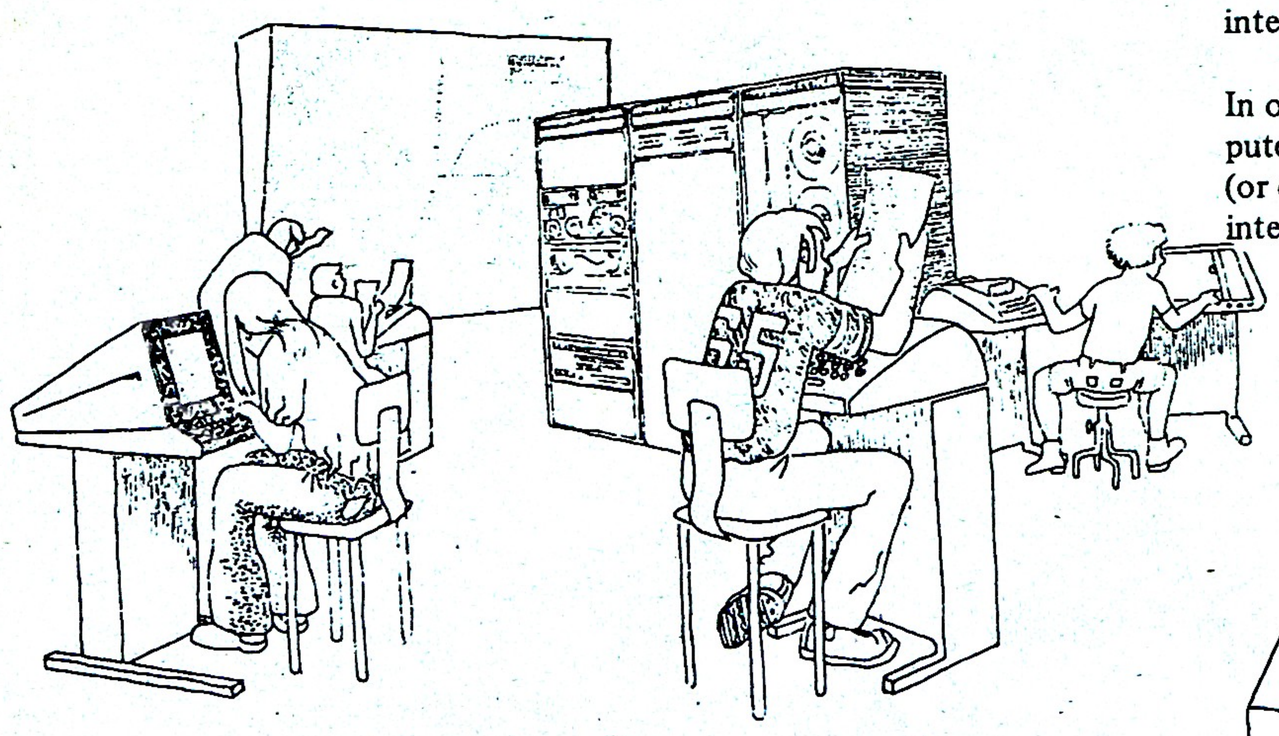
With best regards,

Tom Dwyer

This issue of the Newsletter describes the five soloworks labs

## Computer Lab

The Computer Lab will focus on those aspects of mathematics that are well described by algorithms, and encourage student access of a local computer and terminals. A major skill students will achieve in this lab is that of computer programmer. Examples of some projects that have already been done by students in this lab are developing programs to do accounting and inventory for a small store, programs to play all kinds of games, programs to simulate transportation systems, generation of random ballet dances, a program to interpret "macro" commands for a multi-media show, programs to plot all kinds of mathematical curves and predict and plot their intersections, etc. The significance of the project appraoch is that although students have made available to them past "heritage" appropriate to attacking the project, they are also expected to develop new and unique extensions of that heritage.



Most of the hardware for the computer lab is "off-the-shelf." A future newsletter will go into some detail about the hardware and software we are using, and the reasons for our choice.

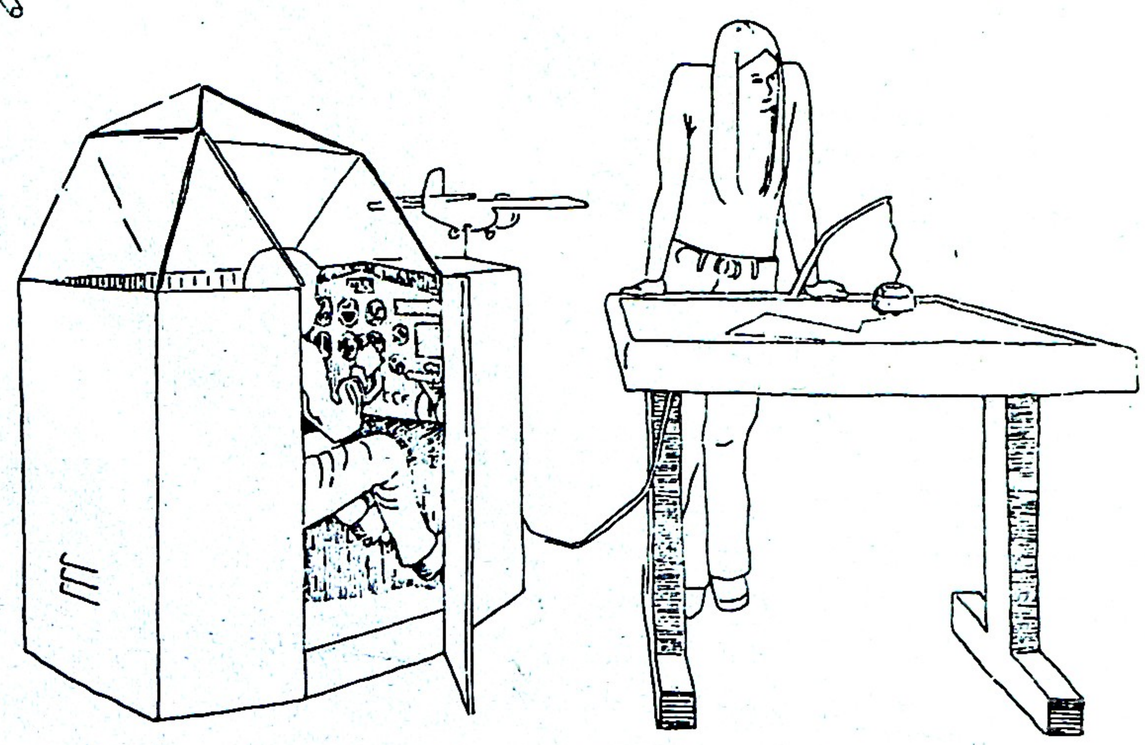
Manufacturers who have shown genuine concern for the problems of education include DEC*, HP, Wang*, and Data General. Some newcomers may surface in the future; at present their products must be classified as experimental, albeit (albeit is one of our favorite words) exciting. An example is the Alto computer.

** Software compatible with extended Dartmouth BASIC.*

## Dynamics Lab

The Dynamics Lab focuses on mathematics that describes processes that take place in time. One form of technology to be used in this lab is a flight simulator. The skill acquired in using this particular equipment is that of making a full instrument landing, or becoming good at instructing a fellow student to do the same. An example of a project would be to sample analogue readings of heading, time, and speed from the flight simulator, translate these into digital data, and then write a program that plots the path of the flight simulator. Another type of artifact being considered for the Dynamics Lab is the "Rube Goldberg" machine, a gadget designed by the student to do nothing useful, but to be a mind-stretching exercise in imagination. Some other work will center on the use of mechanical ball or disc integrators. We think learning to work with the concept of "rate" can become a very natural thing for relatively young students; rate-of-change and integration are certainly classical examples of powerful mathematical ideas.

In order that other schools can use these same devices with any small computer, it is our intention to transmit data between computer and simulator (or other lab devices) in serial ASCII form. We welcome comments from interested parties on the question of standardization of data formats.



(412) 624-6461

SCALE
OPERATE
)START NARRATION
)END OF CUE (TAPE DOES N
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SOLVE
SSOLVE

HIGHER EDUCATION

A Guided Tour of Computer Programming in BASIC

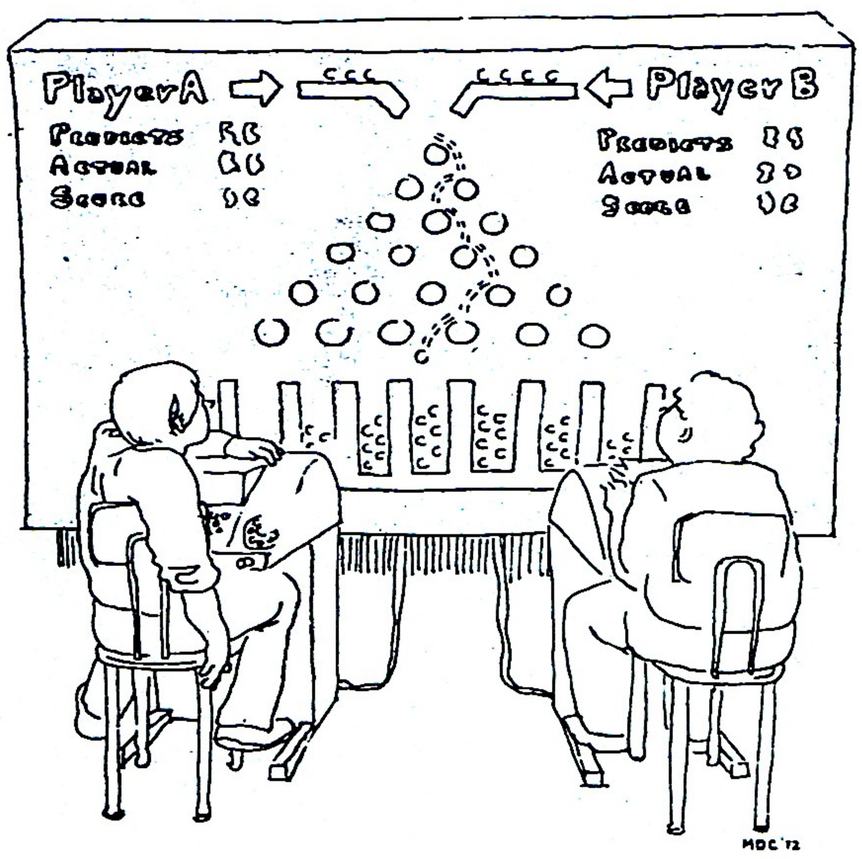
SCHOOL OF TRADE AND

# Logical Design Lab

The Logical Design Lab is a new idea which practically forced itself on us as a consequence of wanting to do significant things in the other labs. The technology used will be digital and analogue circuit modules. We're tempted to call the skill involved "electronic wizardry". One of the most amazing things about this lab is that one really *does* have to use such things as associative and commutative laws (e.g. to simplify the Boolean equations describing a circuit so that it can be built with a reasonably small number of parts). Projects will include light trees, color organs, cryptography machines, burglar alarms, foolproof control systems for the other projects, computer-to-lab-device interfaces, etc.

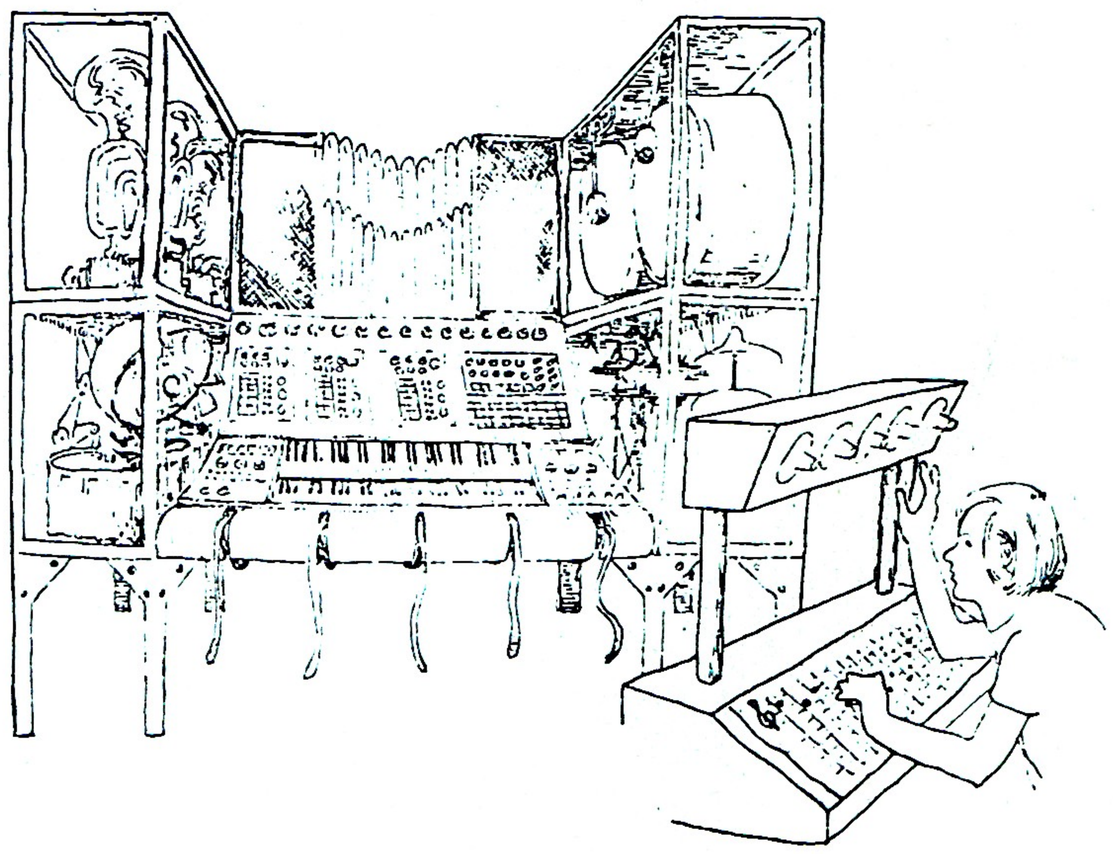
Another area we will include in this lab is suggested by intense interest in stereo and quadraphonic sound we have noted in young people today. Phrases like "matrix decoder" are known to them, and are of great interest. But they don't have the slightest idea how these things work. We intend doing something about that, and math will be front stage and center in the explanations.

We would like to eventually come up with some ideas on a kit of logic modules amplifiers, etc., that takes advantage of recent strides in IC (Integrated Circuit) technology. Such technology is becoming very low cost. We also think the "visible" logic of relays and mechanical linkages should be included.




# Synthesis Lab

The Synthesis Lab is concerned with mathematical formulation that makes use of the principle of superposition, producing complex effects by adding together simple ones. Two special pieces of technology we will use are the "Music Monster" (a kind of programmable band-organ), and a multi-media programmer together with suitable projection equipment. The obvious skills associated with these devices are composer and media-designer. Projects will focus on the design, debugging and performing of original works.

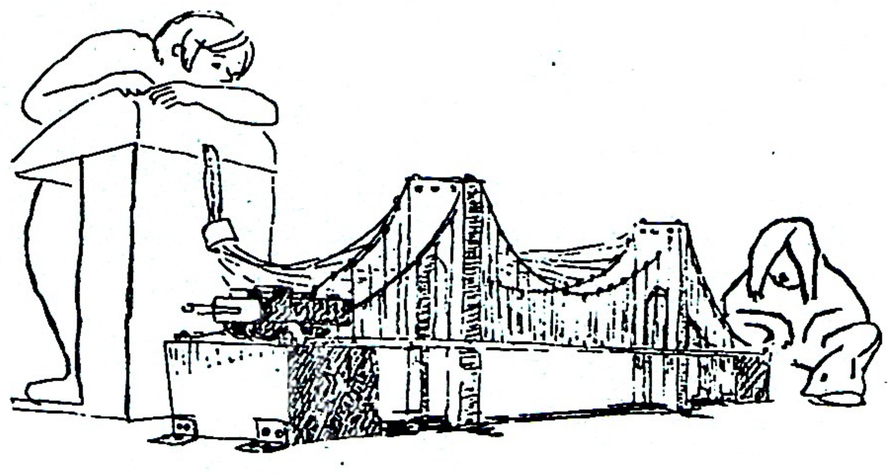


Our initial forays into the music field have been in terms of real organ pipes to be run under program control. Next we'll look at a modularly designed synthesizer. This later technology is replete with applications of the concepts of function, algebraic products and sums, periodicity, summation of series, local linearity, transforms, etc.

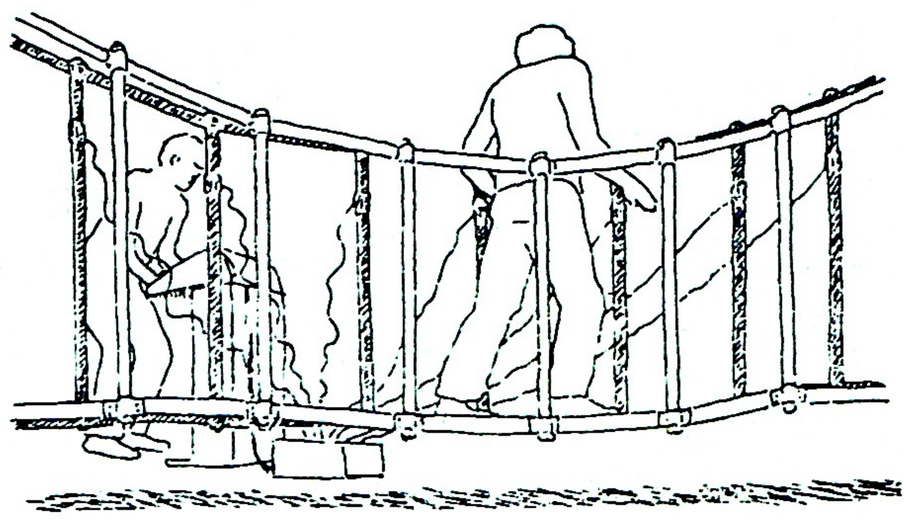
# Modelling/Simulation Lab



The Modelling/Simulation Lab uses mathematics as a tool for creating new models of reality that can be studied and manipulated. Some of the models will be physical (e.g., bridges, elevators, lunar landing modules, etc.), some abstract (e.g. an ecology, and economy, etc.). The skill developed here is really that of applied mathematician, while the gamut of possible projects is open-ended. This is because the computer available to students is general purpose, allowing them to simulate systems not heretofore dealt with. Good software is essential too, which is why we are looking into a language like BASIC PLUS.



The Rube Goldberg machines also fall into this lab (although we're not sure what they simulate!). Perhaps it's semi-accurate to say that they model a fertile imagination. Incidentally, the best model-building sets seem to come from abroad (Automat and Meccano). A really good junk pile seems to be essential.



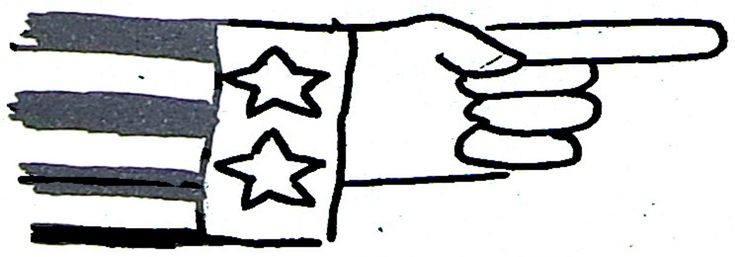
# SOLOWORKS

SOLOWORKS – To keep posted about future developments at Soloworks, just print your name, address and zip on a mailing label, and send it to Project Solo, 812 Cathedral of Learning, Pittsburgh, Pa. 15260.

*The only way to get the next Soloworks Newsletter is to send us a filled-in mailing label. We'd also like to know what your interest in computers and education is, what kind of hardware and software you use, and which of the lab sevices (if any) are of particular interest to you. This last piece of information will help us set priorities in developing curriculum materials.*

# ABASE

## A NUMBER GUESSING GAME



*Peter Katz is a junior at Ravenswood High School in East Palo Alto, California. The program, art work and layout are all his design.*

$4013_5 = (4 \times 5^3) + (1 \times 5) + 3$

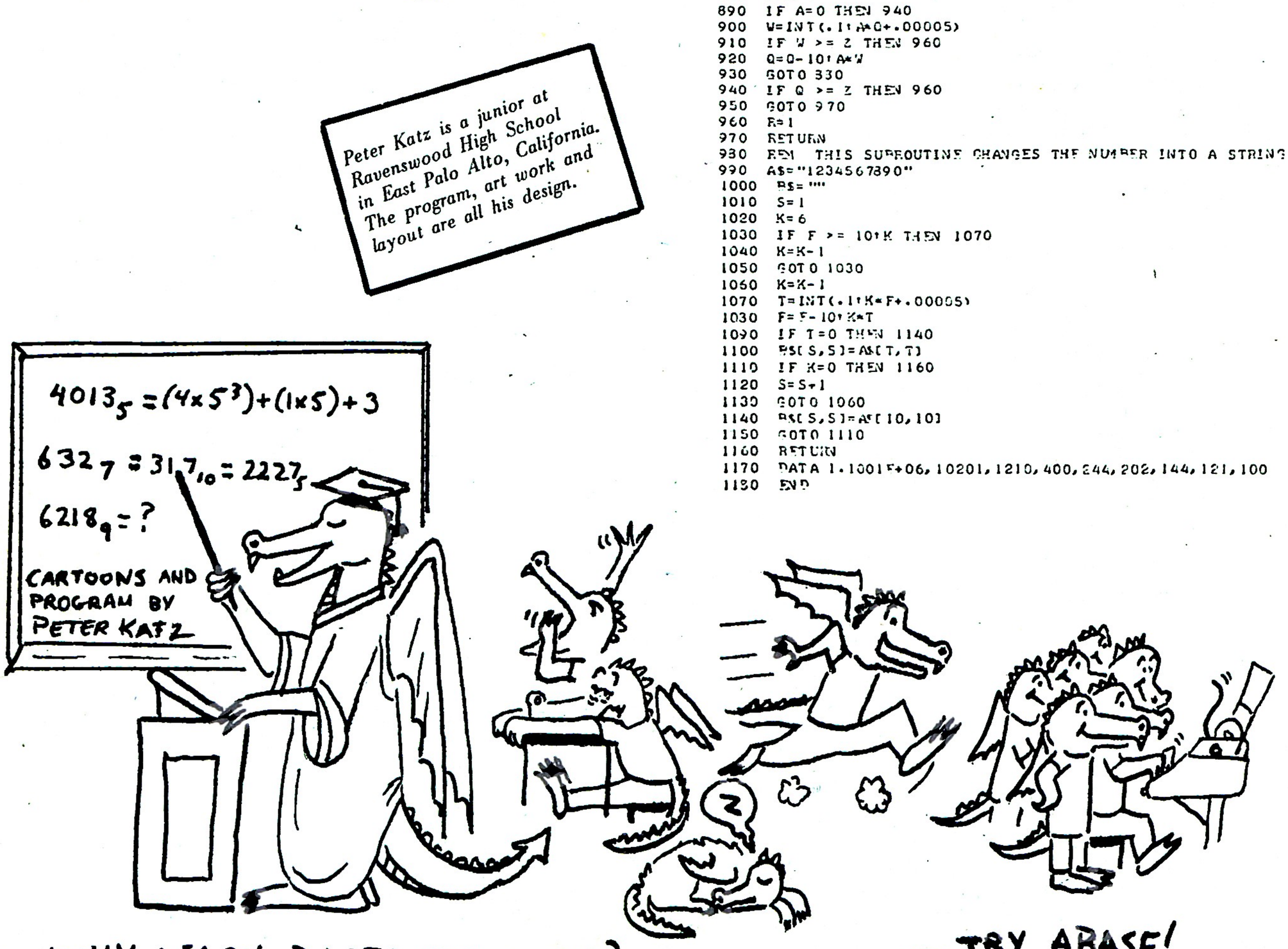
$632_7 = 317_{10} = 2227_5$

$6218_9 = ?$

CARTOONS AND PROGRAM BY PETER KATZ

```
10  REM-ABASE-A NUMBER GUESSING GAME USING DIFFERENT BASES
20  REM-PETER KATZ, 10/5/73, RAVENSWOOD
30  DIM A$[15],B$[15]
40  L=8
50  REM  THE NUMBER OF GUESSES CAN BE CHANGED BY CHANGING 'L' IN LINE 40

60  PRINT "THIS IS A NUMBER GUESSING GAME USING DIFFERENT BASES"
70  PRINT "YOU TELL THE COMPUTER WHAT BASE YOU WISH TO PLAY IN."
80  PRINT "THE COMPUTER WILL SELECT A NUMBER IN YOUR BASE"
90  PRINT "AND YOU TRY TO GUESS THE NUMBER."
100  PRINT "THE COMPUTER WILL TELL YOU IF YOUR GUESS IS TOO HIGH,"
110  PRINT "TOO LOW, OR IN THE WRONG BASE."
120  PRINT "YOU WILL HAVE "L" TRIES TO GUESS THE NUMBER."
130  PRINT
140  PRINT "WHAT BASE DO YOU WISH TO PLAY IN";
150  INPUT Z
160  IF Z<11 AND Z>1 AND Z=INT(Z) THEN 200
170  PRINT "PLEASE TRY A BASE BETWEEN 2 AND 10"
180  GOTO 140
190  REM  THE COMPUTER PICKS THE NUMBER
200  P=INT(100*RND(0))+1
210  X=0
220  A=1
230  IF P<Z↑A THEN 260
240  A=A+1
250  GOTO 230
260  A=A-1
270  IF A=0 THEN 390
280  B=1
290  J=B*Z↑A
300  IF J>P THEN 330
310  B=B+1
320  GOTO 290
330  B=B-1
340  J=B*Z↑A
350  Y=B*10↑A
360  X=X+Y
370  P=P-J
380  GOTO 260
390  E=X+P
400  Z1=Z-1
410  RESTORE
420  FOR G=1 TO Z1
430  READ D
440  NEXT G
450  G=1
460  F=D
470  GOSUB 990
480  PRINT "O.K. I HAVE A NUMBER IN MIND BETWEEN 1 AND "B$" BASE "Z
490  PRINT TAB(10);"---- GUESS #"G;
500  INPUT Y
510  IF Y>D OR Y<1 THEN 800
520  R=0
530  Q=Y
540  GOSUB 840
550  IF R=1 THEN 780
560  IF Y=E THEN 650
570  G=G+1
580  IF G=L+1 THEN 740
590  REM  THE COMPUTER FINDS OUT IF YOUR NUMBER IS TOO HIGH OR TOO LOW
600  IF Y>E THEN 630
610  PRINT TAB(5);"TOO LOW.  GUESS #"G;
620  GOTO 500
630  PRINT TAB(5);"TOO HIGH. GUESS #"G;
640  GOTO 500
650  IF G=1 THEN 720
660  PRINT "RIGHT!! IT TOOK YOU "G" GUESSES."
670  PRINT "DO YOU WANT TO PLAY AGAIN";
680  INPUT A$[1,1]
690  IF A$[1,1]="N" THEN 1130
700  PRINT
710  GOTO 140
720  PRINT "WOW!! YOU GOT IT IN 1 GUESS!!"
730  GOTO 670
740  F=E
750  GOSUB 990
760  PRINT "YOU LOSE, BUCKWHEAT! THE NUMBER IN BASE "Z" WAS "B$
770  GOTO 670
780  PRINT "THERE IS NO SUCH NUMBER IN BASE "Z".  TRY AGAIN."
790  GOTO 490
800  PRINT "I SAID A NUMBER BETWEEN 1 AND "B$".  TRY AGAIN."
810  GOTO 490
820  REM   THIS SUBROUTINE FINDS OUT IF THE NUMBER IS ACCEPTABLE
830  REM  IN THE GIVEN BASE
840  A=1
850  IF Q<10↑A THEN 880
860  A=A+1
870  GOTO 850
880  A=A-1
890  IF A=0 THEN 940
900  W=INT(.1↑A*Q+.00005)
910  IF W >= Z THEN 960
920  Q=Q-10↑A*W
930  GOTO 830
940  IF Q >= Z THEN 960
950  GOTO 970
960  R=1
970  RETURN
980  REM  THIS SUBROUTINE CHANGES THE NUMBER INTO A STRING
990  A$="1234567890"
1000  B$=""
1010  S=1
1020  K=6
1030  IF F >= 10↑K THEN 1070
1040  K=K-1
1050  GOTO 1030
1060  K=K-1
1070  T=INT(.1↑K*F+.00005)
1080  F=F-10↑K*T
1090  IF T=0 THEN 1140
1100  B$[S,S]=A$[T,T]
1110  IF K=0 THEN 1160
1120  S=S+1
1130  GOTO 1060
1140  B$[S,S]=A$[10,10]
1150  GOTO 1110
1160  RETURN
1170  DATA 1.1001E+06,10201,1210,400,244,202,144,121,100
1180  END
```



# ANNOUNCING:

# *A New Member of our Computer Family*

TECHNICAL STUFF

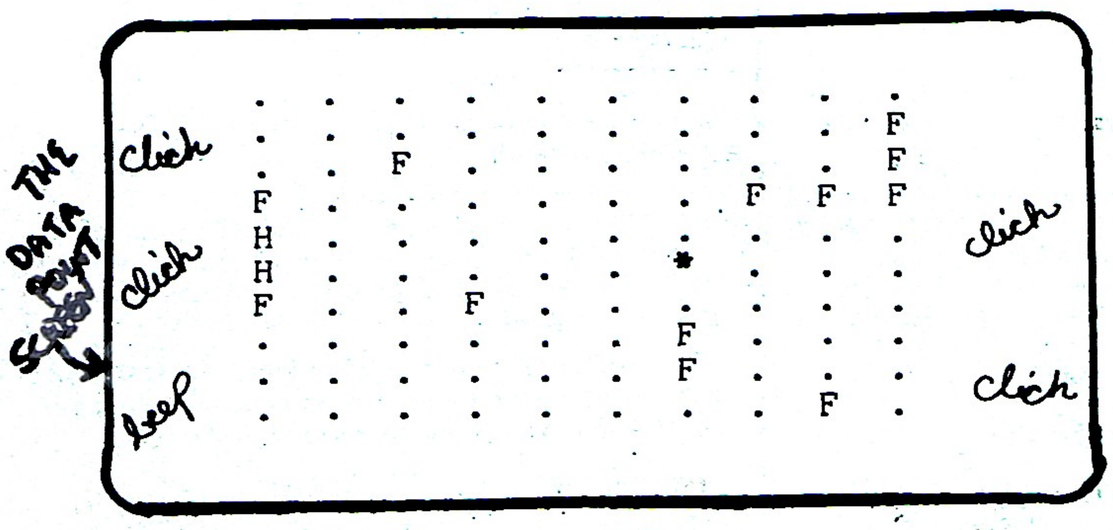
*We recently added a Datapoint 2200 with Diablo printer to our family of computers.*

*What's a Datapoint 2200? Well, it's a minicomputer with 16,000 bytes of memory, a CRT screen, dual tape cassettes, and standard ASCII keyboard.*

*The Datapoint is our first mini with CRT -- the screen has 12 lines, each 80 characters wide. Normal printing on the screen races by at 60 characters per second. But get this: you can PRINT anywhere on the screen! The technique is called CURSOR REPO-SITIONING and we use it alot.*

*The Diablo printer prints at a speedy 30 characters per sec-ond, and you can do micro positioning -- that's when you position by 1/60$^{th}$ of an inch horizontally and 1/48$^{th}$ of an inch vertically.*

*Also, there are some interesting style improvements in Data-point BASIC.*




**This was printed out on our Diablo and shows the screen during a program called ITCHY. What's an ITCHY? Why, it's a mythical creature which lives on an island. ITCHY looks like this: * . The Fs are ITCHY's food and the Hs are holes in the island. But ITCHY can't tell the difference. Watch out, ITCHY!**

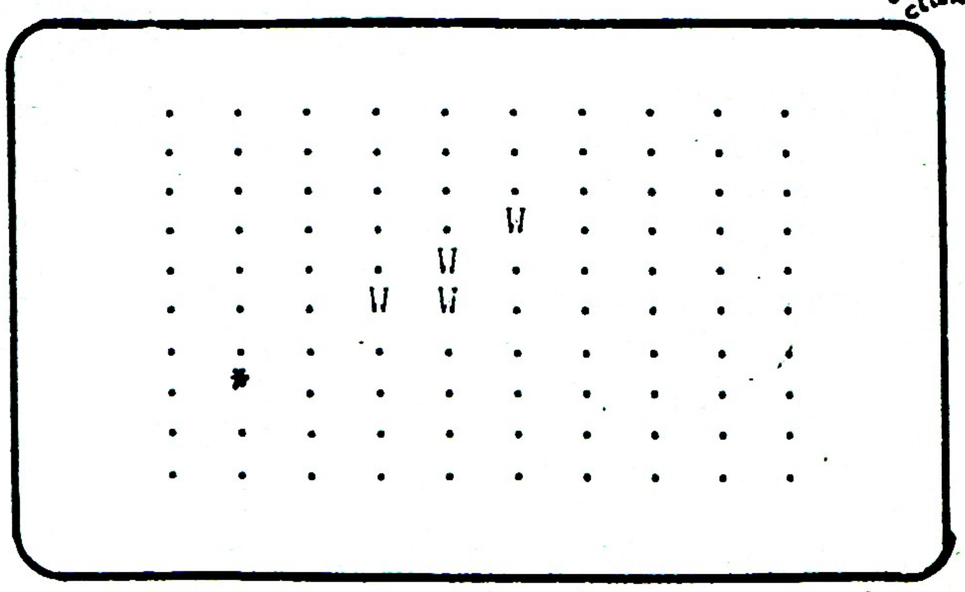
**If ITCHY falls through a hole, you'll never guess where it comes out ...**

**Half the time, ITCHY is a HE; the other half, a SHE. Can you tell which this ITCHY is?**

see page 9 for Spirals, done on our Diablo printer with micro positioning

```
HOT SPOT!! URANIUM LODES NEARBY (3 OF 'EM)!! THE GEIGER COUNTER TELLS ALL!
LOOK OUT FOR THE TIMBER WOLVES !! MOVE WITH N,S,E,W (NNN=3 STEPS NORTH)
IF YOU STOP AT A LODE, ITS YOURS!!  GOOD LUCK, AMIGO!!
```

click Click Click click click click



**Here is another program we designed for the Datapoint – it's called HOT SPOT !!**

**You are a uranium prospector, with a geiger counter. Each time you move, your geiger counter ( we use the Datapoint's BASIC instruction, CLICK ) gives you a new reading.**

**But watch out – you can get eaten by a roving timber wolf !**

## Tape Cassettes:

**ADVICE TO FELLOW DATAPOINT 2200 USERS –**

**We use Scotch C–45 high density audio tape cassettes; you can get them retail for under $2 per cassette. Now that's a price that anyone can afford!**

**P. S. Datapoint retails their cassettes for $6.25. The Scotch cassette works just fine!**

**ATTENTION ALL DATAPOINT GAMESTERS**

**We'll trade games tapes with you. Write and tell us what games you've got and want to trade. So far, our games are in BASIC, but we've got Databus and PILOT and Assembly language.**

# LETTERS

## Data General

Gentlemen:

Sorry to see that you are having problems with Data General. Maybe my local office is just full of Southern Hospitality, but I have gotten any answers I wanted out of them, looted the shop for programmer manuals, etc. and had a good time doing it.

I have worked for one company that was buying systems, and I am now working for one that might; but I got just as good a treatment when I came down as a moonlighting programmer trying to help himself as when I was in on company business.

I also have to agree that the users group is too weak — they don't seem to do ¼ the job that the DECUS people do. But again I have found that users will talk to one another more readily than DEC users and will trade programs about with reasonable freedom. One big reason is that the machines all match up with one another and you don't have the problem of PDP8 vs PDP10, or HP2000 vs. HP 3000 series computers.

I also noticed that you mentioned our little ANSI BASIC Standards group. Well, being realistic, we both know that you aren't going to have anything ready for 1—2 years minimum.

What you might want to do is write the people at ANSI for a current catalogue of standards, and list those, along with an article explaining standards, what it takes to set up one, etc.

Mr. Herrick has proposed taking audit routines as a part of the BASIC standard. Throwing those into a bid for a system would be a lot of help. (At the first Washington meeting of the group, someone mentioned that COBOL standards do not require a correct arithemetic result — and that many compilers don't give them!).

I remember that when I learned to program in IBM FORTRAN, I thought that the IBM way was the one way, the right way, the good way, the only way to FORTRAN. It really didn't get thru to me that there was a standard FORTRAN outside of one company's version.

I wonder how many kids are getting this same idea from exposure to only one machine?

Joe Celko
Box 11023
Atlanta, GA 30310 USA

Dear Bob Albrecht

Nova BASIC and your BASIC are almost the same. There are strings like HP strings, matrix stuff, and PRINT USING. Some things that are different are:

1. ON X + 1 GOTO 5500, 6600, 7700
2. ON X + 1 GOSUB 5500, 6600, 7700
3. I must use

3. I must use <> to mean not equal to.
4. SAVE "XX", LOAD "XX", ENTER "XX", are used not chain, file.
5. The ENTER "FILE NAME" will overlay the program in memory.
6. That is why I will need no common statements.
7. I have about 9000 bytes of storage for BASIC.

Now as to my Nova computer!!!!!!!!! I am a 26 year old electrical engineer, single and two years out of school (Texas A & M). I am a computer nut, I am a computer nut . . . . . I also am a collector of science fiction books. Well, back to the Nova. I have wanted a computer ever since I was 10 or so, just to play with . . . anyway I wish you people had existed then. I put some money into Data General Corp. stock and it went up up up up up up and that is the story of how Data General got me a Data General computer. I think that the number of people in the computer hobby field will get larger so keep up the good work.

Enclosed find two programs WAR and ECOLOGY. They are not mine so I can't give any rights to them as far as I know they are in the public domain. I also have almost ready the game of "LIFE". Life is well just look at the Xerox stuff I have enclosed. Hold everything!!!!!!!!!! Continue, I am back. I will also enclose some examples of Life. That's all for now so please write type print or punch soon.

May all your bytes = 8 bits

Robert G. Winingham

Dear People and Dragons,

My computer is a Data General Nova 1220 with 16K core. I also have a three unit cassette system for program storage. The TTY is a model 38, like the 33 but 132 character output and lower case letters (which I don't use). I also use a TEC CRT with a baud rate of 110 to 9600.

Do you have the computer game of LIFE?

Bill Short of Ventex in Houston sent me the January 1974 paper (I like it). I hope you have a large box, as you can see from the order blank my Nova eats paper tape like a nogard.

The only games I have you must already have —

Ecology
Lunar Landing
Golf

Digitally yours,

Robert G. Winingham
12525 S. Kirkwood
Stafford, TX 77477

## Computers/People

Good People —

I heard about your group from Zephyos. Am currently stuck as a Systems Analyst for Ma Bell in downtown S.F. Creativity and giving are truly lacking here. I am very much interested in using computers to aid our children and resources. I don't find using computers as bill collectors to be an exciting occupation to tend too. Please send me a line as to when you hold meetings, current projects, subscription to newsletter, etc.

Dennis Muscato
208 Gibson
Mill Valley, CA 94941

PS — Have you heard of Project One on Howard St.? Bunch of good people who have an XDS940 donated to them for community use.

More Stuff

Bob —

Sure — print the card I sent you. I will be looking forward to having a get-together with you and friends. You sound like a warm dynamic person. What happens to the folks who "outgrow" BASIC's capabilities, TTY capabilities? It seems they are destined to choose between IBM state-of-the-art computers or devote incredible amounts of energy getting HP's to do what they want. I think you know the feeling once you find out the capabilities of ALC, FORTRAN, COBOL, PL/I, ALGOL, advanced I/O hardwares, IMS, Virtual Systems versus cassettes, 8K memory, etc.

My question is where are you leading the learners of BASIC. In other words your goals — how can we instill in the learning folk the importance of using computers to *help* others and not to get wrapped up in ego-self (i.e., building of "seeing who knows the most" game). Seems quite a philosphical-religious task you are working on — *helping others.*

This started out calm and got carried away — take what you want from what I've said. I'll enjoy getting together as I said.

Dennis Muscato

HI !

I just received (in some mysterious fashion) a sample copy (Vol. 2, No. 3) of a newspaper from an outfit called the People's Computer Company.

Everybody knows that people are here to serve computers and not the other way around . . . more correct would have been Computer's People Company.

I know about this misplaced possessive noun because I am a computer server myself and spend my days cheerfully serving the Master.

Despite this minor mistake I found the newspaper to be super and I have been running around showing it to my fellow computer servers.

Warner Mach
17203 James Couzens
Detroit, MI 48235

## REVERSE

Dear Dave:

Several of us at the University of Georgia have had a lot of fun playing REVERSE and the many other games we found in PCC. Please keep up the good work you all have done in making computers machines for *people.*

We noted that a part of REVERSE does not make efficient use of central processor time and would like to suggest an alternate scheme. Our version of REVERSE permits the human to select (by an INPUT) the number of positive integers he wants to reverse. The part of the program we want to discuss is the part which randomly orders the first N positive integers. PCC's version looks like this (see PCC, Vol. 1, No. 5, May, 1973, p. 4).

```
150 INPUT N
...
200 REM***MAKE A RANDOM LIST A(1) TO A(N)
210 LET A(1) = INT((N-1)*RND(1)) + 2
220 FOR K = 2 TO N
230 LET A(K) = INT(N*RND(1) + 1)
240 FOR J = 1 TO K - 1
250 IF A(K) = A(J) THEN 230
260 NEXT J
270 NEXT K
```

The problem we resolve is best explained by noting that when the program is searching for A(N), after N-1 integers have been assigned to A(1), . . . A(N—1), it will stay in the sequence of steps 230, 240, 250 until 230 generates the only integer left to be assigned. Similarly, every time statement 230 generates an integer A(K) which is already in the list, CP time is wasted.

To avoid this problem, our program will randomly select an A(K) from those integers which have not yet been selected. Our program looks like this:

```
150 INPUT N
...
200 REM***MAKE A RANDOM LIST A(1) TO A(N)
210 FOR I = 1 TO N
220 LET B(I) = I
230 NEXT I
240 FOR I = N TO 1 STEP -1
250 LET J = INT(I*RND(1)) + 1
260 LET A(I) = B(J)
270 IF I = J THEN 272
271 LET B(J) = B(I)
272 NEXT I
```

The main difference between PCC's and ours is that we select A(I) randomly from a list of only those integers not already selected. We use two additional statement lines. There is another slight difference in that our program permits A(1) = 1, PCC's does not. We assume you did this to preclude the possibility of generating a list which is in ascending order already. Because that will happen so infrequently, we decided to permit it, for fun. If you want to retain this characteristic, you can add the following four lines:

```
274 IF A(1) <> 1 THEN (280)
276 LET J = INT((N - 1)•RND(1)) + 2
278 LET A(1) = A(J)
279 LET A(J) = 1
```

Our random number generator is slightly different but in empirical tests we found that our program used considerably less CP time. We employed the TIM function to obtain the following comparisons on our CDC 6400:

| | PCC | | OURS | |
|---|---|---|---|---|
| N | RANGE | MEAN | RANGE | MEAN |
| 20 | .016 to .062 | .037 | .00 to .016 | .003 |
| 50 | .210 to .468 | .282 | .00 to .016 | .008 |
| 100 | .860 to 2.636 | 1.419 | .015 to .030 | .018 |

*Time in Seconds (10 tries)*

Happy reversing,

Ginny Clark
Len Pikaart
The University of Georgia
Department of Math
105 Aderhold Hall
Athens, Georgia 30602

## contract bridge

I've just discovered a computer program that plays Contract Bridge! Unfortunately, I don't have access to the program! I hear this version is on a computer at the U.S. Naval Academy, but there are probably copies around somewhere. Maybe you or your readers could find out more about it; meanwhile here is what I know:

I have seen a listing of the program — a TTY printout and the main program is about five pages (11-inch lengths of TTY paper) long. The subprogram file for the main program is another fifty-seven (yes, 57) pages.

According to the listing, the BRIDGE program was written by Eric M. Friedman in the summer of 1971, and there is a note that the last change to the subprogram was on 8/23/72 by Diane Mather. I have been told that Mr. Friedman is (or was) from Dartmouth College. When certain types of program foulups occur, the program will print out "Please bring (or mail) this Teletype paper to the Kiewit program librarian, 105 Kiewit. In the meantime, we continue with a new hand." At another point, the printout reads, "Please refer all suggestions to Eric Friedman, 109 Tuck Mall." (Are Tuck Mall and Kiewit at Dartmouth?)

The program description indicates that this is a game for one to four who wish to play Contract Bridge. The computer will deal, bid and play any hands necessary to fill out the table, as well as keeping score. To play alone, one types 'RUN'; to play with others, you use the 'JOIN' and 'LINK' commands for multiple-terminal linkages. Then at each terminal, that player will see only his hand (and, during play, the dummy's) until the end, when you may ask to see all four original hands.

The bidding is Standard American, with Stayman and Blackwood conventions included and required where appropriate. When it's your turn to bid, you may respond PASS, DOUB (double), REDB(redouble), BID (to have the computer finish bidding your hand), BID1 (to have the computer make your next bid) or a suit bid (e.g., 1S, 3D, 5NT, etc.).

When it's your turn to play, your response may be HAND (to see what's in your hand), DUMMY (to see what the contract is), TRICKS (to get a count), PLAY (to have the computer play the rest of your hand for you.), PLAY1 (to have the computer play just this card for you), or a card from your hand (e.g., 5D, 10S, AC, KH, etc.).

Illegal bidding or playing generates an error message, and you must then respond properly. Typical error messages: "Wrong format — type 'HELP' for explanation." "You have more Hearts. Follow suit!"; "You've already played the 10."

Finally (get this!), when you have only one card left of the suit led, the computer will automatically play the card for you, unless you are playing against other players (because the lack of delay would let them know you had a singleton). This guy obviously knows his Bridge and his programming.

As I mentioned, I don't have access to the program, but a friend of mine knows someone with access, and this friend played one hand against the computer. He reached a reasonable contract which was difficult to defend against, but he said the computer did quite well in the bid and play of the hand. Note: I don't know whether the program uses its knowledge of all four hands in deciding what to bid, when to double, when to take a finesse, etc. I certainly hope not.

The program appears to be written in BASIC, but I'm not an expert in BASIC, and there are some things that I don't recognize as normal in the little BASIC that I do know. For example:

Comments can be on the same line as (but following) an instruction; comment field denoted by an apostrophe.

Some out-of-the-ordinary instructions -- RANDOMIZE (used during the deal); CHANGE (e.g., — CHANGE A TO A$(1)), LINPUT (e.g., LINPUT P9$); CALL (not GOSUB) followed by a name in quotes, and SUBEND (not RETURN) for subroutines.

Matrices can be zeroed by MAT D = ZER

There are multiple-line function definitions — like DEF FNI$(N) on line 510, and continuing to FNEND on line 830.

Outputs of line feeds and carriage returns can be set up as variables, as in Q(X9) = ASC(LF), and Q(1) = ASC(CR) where I suppose that ASC is calling some sort of ASCII function.

Perhaps this stuff is common knowledge to a BASIC wizard; it's kind of confusing to me. However, the program is fairly well commented as to what's being done (in the middle of the DEFENSIVE PLAY routine, for example, it says "Did partner bid and is suit worth leading?" in the comments), but seldom does the programmer explain his secrets of how he's doing it. To do so would probably double the length of the printout.

I certainly hope Mr. Friedman doesn't mind this publicity. If you can get in touch with him, maybe you could publish info on the program or refinements to it, and let your readers know how to get tapes and/or listings. He has undertaken a fantastic effort in writing this program, and apparently was quite successful. (I wonder how his program would do in a tournament?)

Robert C Leedom
3429 Rolling View Court
Ellicott City, MD 21043

## QUBIC

Dear PCC

I finally found out how the BASIC program Five-level Qubic originated. I was talking about a PCC computer game to Ray Westergard who helped set up the Lawrence Hall of Science Computer Education Project while he was a graduate student at U.C. Berkeley. Qubic came up in our conversation and Ray mentioned that in 1971 he got Doug Oman, then a student of mine, to write it. Ray was busy at the time writing other programs (BATTLE and SIMNIM) and was looking for some assistance in getting more computer games available for the class he was organizing. He asked Doug, then one of the Lawrence Hall of Science computer whiz-kids who wrote computer programs for fun, if he would write a Five-level Qubic.

They discussed how difficult each level should be and decided on the following strategies:

**Level 1 — Pick a random row and continue to play in that row until blocked.**
**Level 2 — Offensive: same as level one.**
**Defensive: check for player 3 in a row and block.**
**Level 3 — Offensive: pick 2 intersecting rows and fill up 2 squares in each row and then play their intersection to get 2 simultaneous 3 in a row.**
**Defensive: same as level 2.**
**Level 4 — Offensive: same as level 3.**
**Defensive: check to see if there is a square that will give player 2 simultaneous 3 in a row. If so, block.**
**Level 5 — Qubic written by Hewlett-Packard.**

Ray admits embarassingly that he paid Doug the Fan-Tastic sum of $5 which, Ray is quick to point out, is $5 more than what the other computer whiz-kids were writing programs for at the time. Doug admits embarassingly that he accepted the $5.

Flora Russ
King Jr. High
1781 Rose St.
Berkeley, CA. 94703

## Toyshop

Chief Dragon,

Want to partake of the clearance sale. Enclosed is a message to my financial institution to transfer the proper funds to your control.

The "Toyshop" is our computer math lab. It contains a Monrobot XI (it needs fixing), an IBM 24 keypunch, four Compucorp 322G (called toys), books, journals, etc.

In addition, we have an open resource center for students to study and do homework in.

Will be requesting program printouts. Figured out TAXMAN and have it in FORTRAN if anyone wants it on cards. (IBM 1130 — uses console).

A.M. Banks
Resident Dragon
Beyer High School
1717 Sylvan Avenue
Modesto, CA 95355

## friend/visitor

Dear Bob et al,

Thank you very much for doing so much for me on my recent visit. My day + with you was the highlight of my trip.

I will try to program the version of STTR1 for the 9830 on our 30 soon, and will send you a listing or cassette. A cassette would be better, I guess, so you could send me one with several of your programs.

The computer seminar in New Mexico is not until April 4, due to several reschedulings, so anytime is fine I don't know for sure what the attendance at the thing will be but it includes Arizona, New Mexico, and West Texas, so I should have no trouble handing out PCC.

I'll write to you again in the near future regarding doing a page. At the Enterprise locally we could use all necessary equipment and layout sheets, so if we get together enough programs of interest we'll try it.

I would certainly like to take you up on the offer of helping you out with the paper, field trips, etc., in exchange for computer time this summer. I will certainly be in California, and will try to get to Menlo Park for as long as I can.

One question: what did Jane Wood base her SUN-SIGN program on? I did six or seven of them when I was with you, and have been analyzing them comparatively with the info in PCC on them.

Again, thanks for lunch and looking after me, I hope to return soon.

Stephen Bates
1915 Jefferson St.
Pecos, TX 79772

## Used Computers?

Dear People,

Would you know of any companies that sell used computer equipment — like PDP-8's, 16 or 32 integrater analogs, etc.?

Michael Coxe
Trading Path Corp.
2720 Cartier Drive
Raleigh, NC 27608

Bob

Thanks for the issues, I'm glad to see information and fun at reasonable prices these days.

As for printing my letter, AOK. The only trouble is that the $molla$ saved for the mini is going towards a good deal on a VTR monitor. It will be at least summer before I can even allow myself to dream of a cpu. But leads are always welcome so print away.

By the way don't be fooled by "Trading Path Corp." We only exist in the minds of millions and have no listing with the TAXMAN. We've thought of incorp. but most of use are still student types with no $ or time to burn. We're mainly video oriented, but I'm majoring in Computer Science (they go together nicely).

Michael Coxe

PS No one here at State (NCSU, Raleigh) has heard of PCC — I'm gonna turn em on. Watch out!

You might have heard of NCSU, the basketball team is No. 1 nationally, the week after UCLA's demise.

Basketball is to STATE as Owsley was to the Pranksters, both a joy and a pain in the ass!

## newspaper

Dear People:

I can't resist your generous offer of all five issues of last year's PCC for only $2.00. Find enclosed a check for $2.00, and please send me the five issues.

The cover of your paper seems to indicate that you are interested in my computer experience. I learned BASIC on a HP2000C last summer at the Colorado College, Colorado Springs, during a six week NSF SSTP. They turned us loose with a copy of your book *My Computer Likes Me*, A TTY, and spare time. I continued to experiment after I finished the book, and managed to master most everything except PRINT USING-IMAGE statements and files before I had to leave. I have no direct access to a BASIC computer now, but I still like to dabble with programs. I have also since become extremely fascinated with programming, logic and electronic gates. I have even gone so far as to take a NCR FORTRAN (ick) punched-card class at the county community college.

Enough of my life story. Keep up the good work with your paper; it's great!, especially the Toolbox.

Yours truly,

Robert A. Rethemeyer
P.O. Box 113
Myrtle Point, Oregon 97458

Dear People;

A friend of mine in Monterey told me that you publish a newspaper 5 times a year and sell subscriptions for $4 a year. I've enclosed $4 and would like to receive a year's worth, please. Also, I assume that back issues, if available, are sold rather than given away. If you could, please tell me if I can get them and how much, if anything, they cost. Also, could you tell me a little bit about your company as I am going to computer programming trade school and am very interested in alternate uses of computers — do you know of any east coast companies or publications similar to yours? All information is appreciated. Trying to learn as much as possible, you know.

Best wishes,

Mack Becket
29 Beekman Street
NY City 10038

Dear Sirs:

We like your paper — GREAT!

We have 3 PDP/8Es with plans for a computer in each High School (32 all together) in the next few years. Ten more systems are planned for Sept. 74.

I hope to visit you this summer.

Samuel W. Calvin
Darmstadt Career Centre
US Dependent Schools, European Area
APO New York 09175

# HELP !

Dear Mr. Albrecht:

I am very confused with your mag. I have a few questions about it and other stuff: Why did you pick Calif. to plant a computer center? Not that it REALLY matters but I can't get out there, every issue there is something fantastic happening in your computer, you teach BASIC and Computer simulation and unbelievably great stuff like that, and I have to rot away in New York and look at the stupid snow outside, the biggest excitement to hit my data processing class was when the terminal overheated. Why couldn't you be in New York then it would really be fun city. You were right about RPG, all I can do is a payroll, our teacher tells us that we can do all sorts of stuff on RPG but I'm still doing payroll and more payroll, no games and no nothing, man, is it boring. Okay I decide to learn BASIC right? It's easy so I get a book out of the library and I open it up, N=2, I thought RPG was hard, can you imagine opening a book and an N=2 stares you in the face? I sure hope that *My Computer Likes Me* is a little bit easier, I see N=2 in my sleep already. Is there anything happening in New York that you know about, something like what you do with games and things? I look around for a computer center for a job figuring I could get some sort of an education, a coop program or something, a job, anything, did you know that New York is in the midst of a recession? the only state in America, a N.Y. exclusive. Nobody is hiring anybody to do anything. Everything costs a lot of money if I took a course, 900 dollars for a course in Queens Community. Who has that kind of mula? My parents laugh right in my face "$900 bucks? What, are you nuts? Go to bed and take two aspirin maybe you'll feel better in the morning," and my mother says maybe its constipation? (to her any disease is caused by constipation) I go to the college office in my school, "well, there is a college in Oskosh, Illinois with a thing called a TTY but I don't know much about that, they're offering a course over the summer to learn how to fix it" Can you believe that? Do you have anything over the summer, courses or anything? My parents would gladly pay for a one way ticket to Calif. furthest place from N.Y. I want to learn things about computers, I mean there is so much to learn and I can't go anywhere, you gotta help me out I'm dying of frustration (if that's possible). Even IBM isn't doing anything, no jobs, no education, no computer — I'm in a great state. Did you know, even if I could play games with BASIC, I couldn't do it on N.Y.'s Board of Ed. Computer, so what's the use. I need a Computer. Oh, we have a Monroe Monrobot XI, do you know of anything I could do with that? All I know I could do with it is computer math, which isn't exactly whoopee, plus the fact that the computer math teacher doesn't like tic-tac in the mini because it blows out the Quick-Comp language which he needs to do whatever he does (the mini can't hold two languages at once) but you probably know all that.

Are you people sane? if it's true, computer time for two dollars? I think the dragon is getting to you all. But, if you want to do it, I'm game.

I have other problems, I'm not that good in math I mean if I put my brain cells to work, I can do it but it's pretty shaky. So my average in school isn't so hot 80%, any college is going to laugh in my face, except for Queens Community which has absolutely no Computer Science courses at all hardly. I'm thinking of driving a truck and to hell with Computers. I think a lot of my brain cells are dying anyhow.

Is there any way I could change your games like Sunsign into RPG? I doubt it, but there is no harm in asking.

You've gotta help me out, your mag got me started on all this. IS there any place like LACE or any computer group that I could hook up with on my schools terminal, for a modest fee?

Thanks a lot for the addresses of the BASIC books, David Ahl and Jean Danver. Is Jean Danver a Mrs. Danver or a Miss Danver? I put MS. as a compromise, I hope she's liberated. Maybe you'll move to N.Y.? especially after a good earthquake, aren't you worried about an earthquake, you must have expensive equipment . . . . . Well I'm glad PCC is around, you are the only people that would understand what I am talking about. I would like to visit you but I know that would be impossible, maybe I'll call you, as an act of desperation just before I kill myself/I think Salvidore Dali is really far out too bad he is dead, poor guy.

I'm glad I got all that off my stupid head, maybe you can straighten me out. I'm sorry it took 2 pages though, and I wouldn't care except you must have work to do, whatever you do. By the way, I got a 98 in Data Processing so I must be doing something right.

Thank you very much for reading this letter and I hope PCC lives forever, (and Salvidore Dali).

Mike (Just Peachy) Pitt
213-17 86 Ave.
Queens Village, NY 11427

# more mike pitt

Dear Sirs and BASIC Phreaks:

Inclosed or Enclosed please find one green dollar and fifty centos for a book which was recommended to me by fearless super Bob Albrecht, entitled *My Computer Likes Me*, supposedly containing key and BASIC things about BASIC (pun). If there is a price increase in the two days that it takes this letter to reach you (which wouldn't be surprising) please send it by fish (COD), but I don't think it will. Thank you very much and may the bluebird of happiness, well leave a deposit on your printer.

Hang in there and thanks again

Michael Pitt

# Teecher Wanted

Dear Bob,

I am planning to leave my teaching job and since I worked very hard to build my system, I want a good replacement; (the type of person who reads PCC).

The position is to teach high school Data Processing and Computer Science. Located 35 miles from Chicago, we have a EDU45 system, running EDU25 timesharing (3 TTY and CRT) and batch (card and printer); also tape and disk. The 73-74 base was $9,525. If interested please write:

Computer Job
1355 N. Sandburg Terrace 605-D
Chicago, IL. 60610

# Author, Author !

I'm sometimes known as Dave of the Caves, because I authored the games in the CAVES family , CAVES1, CAVES2, CAVES3, PUBLIC CAVES, and TREE, in addition to such other games as STAR TRADER, BUTTON BUTTON, BEYOND BAGELS, MEMORY, PILE, ITCHY, and DANGLING STRING.

Very recently, Digital Equipment Corporation published "Getting Started in Classroom Computing", a book of classroom materials focusing on six computer games. The book is a good one, and we need more like it.

There is an unfortunate side to the story. Two of the six games were created and developed here at PCC and through a misunderstanding, we were neither contacted nor notified before they were put in the book.

Misunderstandings are sometimes forgiveable, and I think this is such a case. Since CAVES were included in that book, and I'm in the process of writing my own book about CAVES, I feel a Public Point needs to be made.

Authors of original materials, be they art prints, computer games, classroom materials, etc. *should be contacted and permission secured before use is made of their work.*

For myself, I am willing to help any and all who want to use the games I've written. But before developing teaching materials with them, *contact me first.*

Our field, the art of designing and using computer games, is still a new and small one. We need a certain kind of respect and courtesy if we are to learn from and help each other.

*Dave Kaufman*
People's Computer Co.
Menlo Park, Ca.

*WE AGREE!!!* *signed,* Dave D Mike Albrecht

# what ? again?

Dear Mr. Albrecht:

Obviously I have created a splash in People's Computer Company. You can print all my letters past present and future as long as I haven't insulted anyone that might be reading PCC like my teacher or a friend, on the grounds of quickly losing my life. By the way I got a letter from Pat Danzer from Hewlett Packard ("ask the girl who owns one"), she sent me a list of BASIC books, that, strangely enough were all "easily obtainable" from PCC, not that she was plugging you or anything. I also suggest you tell her that *My Computer Likes Me* is not 1.19 but 1.49. I wouldn't want anyone cheating you or anything.

I didn't know you wrote a book, you and LeRoy (Yo LeRoy). I really freak over that name, LEROY LEROY LEROY Finkel. I think I'll start selling your signature for quick profit and fast returns.

If I am going to learn basic, not that I know anything past N=2, but wouldn't I need specification forms for it? If BASIC is so common then there is a specification form for it, isn't there? I guess I will find out when I get My Computer Loves Me (it's already getting intimate).

Okay, so people are practically hysterical over my commonplace jokes, would you please kindly control your emotions and answer a question which I have asked in 2 letters to you? The BD of ED in NYCity doesn't have BASIC, where am I supposed to learn on or in or upon? once again DOES PCC RENT STUPID BASIC COMPUTER TIME FOR CHRISSAKE? I need a computer that dohickeys with BASIC, if I keep it a secret I can use my school's terminal IBM 3760 but I don't know if it uses ASCII or the other EBCD or something like that. Would you kindly help me out since it was your magazine that got me into it in the first place HUH HUH?????. I think it uses EBCDIC.

Thank you very mucho and all that garbage,

Michael Pitt

Mike — His middle name is Phillip

PCC

Gentlemen:

Just received my first issues of your newspaper — looks good. Your January issue refers to a "Clearance Sale." I wish to take advantage of this sale (is this a "white sale????).

I also thought you might be interested in a short review of Spencer's book *Guide to Teaching About Computers in Secondary Schools"* which I wrote in a local newsletter. MACUG is a loosely organized group of educators involved in computing. It is co-edited by Dr. Henry Kepner of UW-Milwaukee and myself (I am a high school math teacher). A review of your newspaper will probably appear in the next issue. It will be complimentary, I'm sure.

Good luck in your venture and I'm looking forware to seeing the Vol. 1 shortly.

Joseph W. Kmoch
3495 N. Oakland
Milwaukee, WI 53211

Dear PCC,

Last Saturday I went to PCC and I really enjoyed it. PCC is a place I'm not likely to forget. I don't think I'll be going down to PCC very often (it's about 100 miles round trip!). Now a few words about your newspaper.

Your newspaper is one of the most original ideas I have seen. It's a newspaper just for us BASIC freaks. (I also like the games.)

You talk of reduced rates for dragons. What if somebody walked in with a Komodo dragon and asked for a subscription. (Incidently, they are monitor lizards.)

Allan Hollander
61 Edgecroft Rd.
Kensington, CA 94707

Dear Bob,

The description of your activities in Oct. Infosystems is fascinating! My background is computers and my private passion is games. I enjoy all aspects of teaching and learning. Having done much tutoring and also having four children of my own I have found games most useful both for teaching thinking skills as well as simulating life situations. Please add my name to the mailing list for your newspaper, and send some info on the services you offer to children. Any info on *Inchworm* would also be appreciated. I firmly believe that if computers are to gain wider acceptance and be used for solving people problems they must first be fun.

Robert Gorman
115 Braemar St.
Elkgrove, Ill. 60007

# WHOOOOOPS

New axiom —

The best way to get information from a computer vendor is to say something wrong about them (or not mention them al all). Well, last issue, that super hardware special, we somehoe misplaced most of DEC's hardware line. So here you are Digital Equipment Corp. — two full pages of your hardware according to the lastest info we have available. Readers might go back to pages 16 & 17 of the last issue before you go on. (Vol. 2, No. 4.)

*CONSUMER ALERT: We have never had any experience with the PDP 11 based systems described here. The RSTS/E systems have been delivered and tested in schools. All we know about these new systems (EDU 100, 200, 250) is gleaned from stuff sent to us by the proud manufacturer, DEC. So, if there are any real-life users out there, let us know how YOU like EDU 100, 200, or 250.*

## EDU 10

Edusystem 10 is DEC's starter system, a 4K single terminal mini that talks in BASIC, FOCAL, FORTRAN (barely) and PAL III assembler. DEC's 4K BASIC is really quite powerful. It includes nearly all of Dartmouth BASIC except TAB and, of course, matrices. You can pick and choose which functions you want to keep operable when you load the BASIC interpreter. The fewer you choose, the more space remaining for your programs. You can also scrunch multiple statements on one line, thereby saving space. We guess that user space is about equal to 900 words on other systems. With a little programming imagination you'd be amazed at what can be done in those 900 words. You can buy a 4K Edusystem 10 complete with Teletype for $7000.

## EDU 15

Edusystem 15 — A single user 8K system with a single DECTAPE. The software is interactive EDU30 BASIC and allows for very large programs. You can store and chain programs in the DECTAPE and even maintain a library for public access (we've never seen this system). Price $9910.

## EDU 20

Edusystem 20 — EDU20 is the bread and butter system for a larger school. DEC claims this 8K system now handles 4 terminals time-sharing in BASIC. Or, you can run single terminal FORTRAN or assembler. The BASIC is Dartmouth BASIC (without matrices) including TAB, ON GOTO, and RANDOMIZE features. EDU20 now allows use of 6 character string variables. Price for single user $8430 including one Teletype. Price for 4 users, $14,730 including four Teletypes.

## EDU 25

Edusystem 25. EDU25 is a 16K system with a DECTAPE or 1.6M word cartridge disk. The 16K version will support 6 terminals in BASIC, 20K will support 8 terminals. You can add core to 32K. It looks like a neat small system that gives you all the features of a larger disk or tape system at a really low price. You even have a Public Library of programs available to all users. EDU25 BASIC includes 6 character strings and all related instructions for string manipulation. There is also limited file manipulation instructions. (We've never seen this system either, but sure look forward to it.)

Price — $23,690 including DECTAPE and one TTY; $24,990 with cartridge disk and one TTY.

## EDU 30

Edusystem 30. Here's the batch/interactive system for those of you who like mark card systems. EDU30 is a 4K system with 32K disk, optical mark card reader and one Teletype. Students enter programs using cards marked in ordinary pencil (fast loading) and then switch to interactive mode to debug the program or run it. We've heard excellent reports from some EDU30 users. Price $20,220 complete.

## EDU 40

Edusystem 40. All this is, is one system that has all the hardware to run as EDU20 or an EDU30. Two systems all in one that allows you to switch from single terminal, mark card, disk user to multi-user core based user, at your will depending on what you're doing. Price $21,790 with one TTY.

## EDU 50

Edusystem 50. This is DEC's 8 to 16 users, multi-language system. The only multi-language system in it's price range. You can simultaneously process programs in BASIC, FORTRAN, FOCAL, and Assembler, all in time sharing. Each user appears to have his own 4K memory segment. For 16 users, you need 24K, high speed paper tape, 262K word disk, dual DECTAPEs and the goodies for 16 TTY's. You must read Chapter 9 of the Edusystem Handbook to really get a feel for what this system is capable of doing.

Price — $55,410 with one DECwriter terminal, add $300 per local TTY (16 TTY maximum).

EDUSYSTEMS 10 THROUGH 50 USE A PDP 8E CENTRAL PROCESSOR. PDP8'S REQUIRE A $300 INTERFACE FOR EACH LOCAL TTY OR A $375 INTERFACE FOR EACH REMOTE TTY.

*For more details on how to buy an Edusystem 20 or 25 see PCC*

*Vol. 1 No. 3 page 14*
*Vol. 1 No. 4 page 21*
*Vol. 1 No. 5 page 18-19*

# PDP 11

PDP11 Based Edusystems — DEC's PDP11 computer now comes in three models; the 11/10, 11/40 and 11/45. The 11/10 is a dollar saver but has limited growth capability (you can't expand to a RSTS system). Therefore, we will only show prices for the 11/40 and 11/45 models. The 11/45 is capable of using a 16K MOS memory which makes it twice as fast as the 11/40 model. Otherwise they are about the same.

# BASIC 11

BASIC—11. They've done it again! Another new BASIC. Much better than EDU10-50 BASIC, not as good as BASIC PLUS, but oh so competitive with HP and Data General. BASIC—11 is Dartmouth BASIC plus 255-character strings, string arrays, PRINT USING, calculator mode, CHAIN and COMMON, multiple statements per line, all users sharing all peripherals (printer, paper tape, etc.), files, machine language subroutines and on and on. An extra bonus — you can allocate different amounts of user space for each user. BASIC-11 is almost everything you'd want in a classroom BASIC plus some bells and whistles. Only thing not included are matrix commands which DEC feels are "relatively infrequently used" and we agree. We're really looking forward to using BASIC—11.

# NEW

# EDU 100

EDU100 — Go back to the last issue and delete EDU70 because this system obsoletes that one. EDU100 is a core based 1—8 user system that uses the new BASIC—11 language.

Price — 16K, PDP 11/40, $16,505 (up to four users)
Add 16K, plus goodies adds $4685 (up to eight users)

- ★ To expand to EDU200 add $15,707 plus $680 installation.
- ★ To expand from EDU200 to EDU250 add $5470 plus $175 installation (still only 8 users).
- ★ To expand to mini RSTS add $7970 plus $360 installation (still only 8 users).
- ★ To expand to mini RSTS/E add $15,475 plus $450 installation (now 16 users).

# EDU 200

EDU200 — Here's the BASIC—11 language available on a system using dual cassettes, 1.2 mega-word cartridge disk and a DECwriter for consol. You can get it for 4 users or less for $32,400 (11/40). But, to be practical, an 8 user system comes with 32K and everything but interfaces for only $37,085. To expand to EDU250 add $5470 plus $175 for installation and so forth (see EDU100).

# EDU 250

EDU250 — Another 8 user system but this one runs multi-users in the foreground and *simultaneously* it will allow one user to run FORTRAN or assembly on the background. No one else makes this claim at these low prices. The system uses dual cassettes and a 1.2 mega-word cartridge disk (or DECTAPE). Price complete for 8 user, 32K system is $38,055 plus interfaces. Expansion to mini RSTS add $7970 plus $360 installation.

Mini RSTS and RSTS/E — Gone are the EDU numbers. These next systems use the powerful BASIC PLUS language (see description on page 16 of Vol. 2, No. 4).

# MINI RSTS

MINI RSTS — 8 users on a 32K,11/40 with two cartridge disks giving you 4.8 mega-bytes of storage. Price $40,715.

# MINI RSTS/E

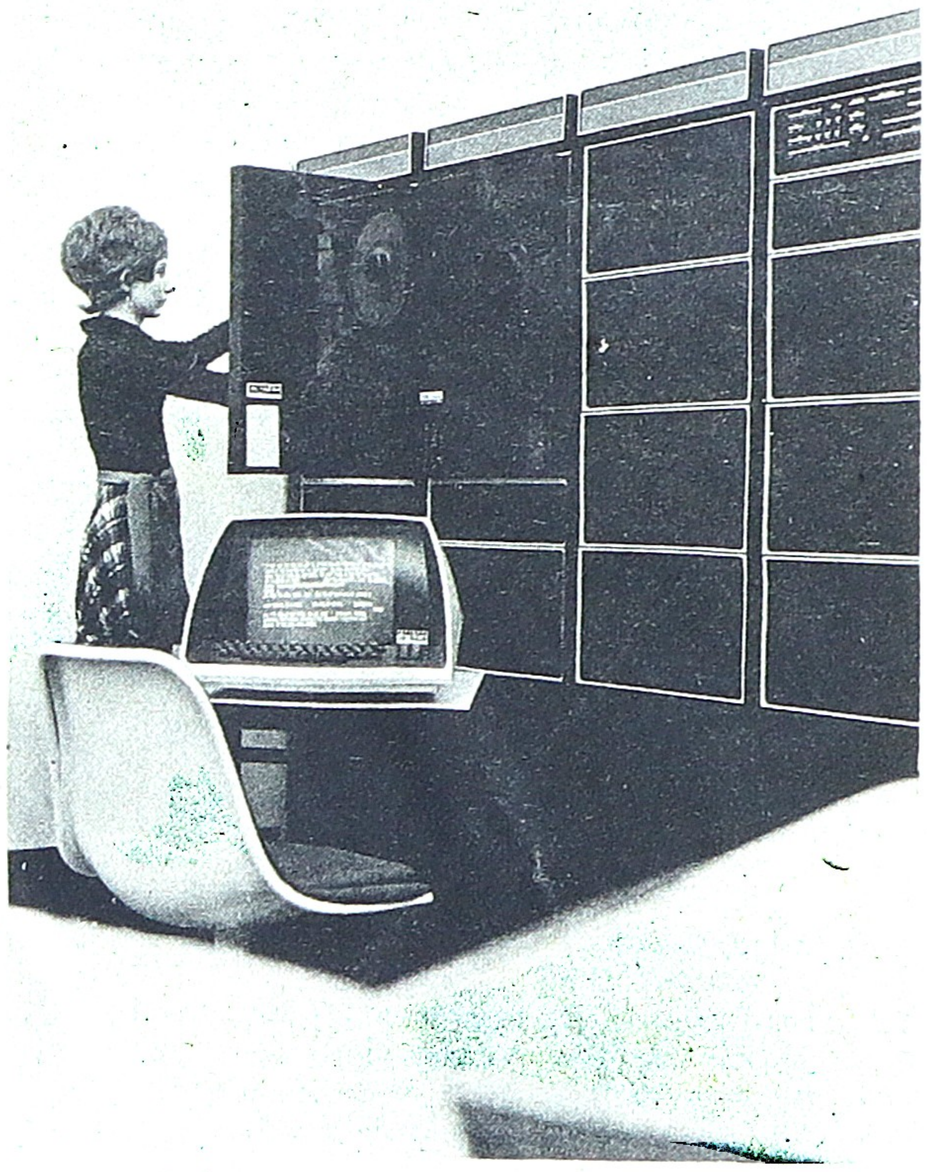
MINI RSTS/E — for 16 users you need 48K, plus your 4.8 mega-byte cartridge disks, a 16 line multiplexor. On an 11/40, price is $59,865. On an 11/45, $69,770.

DEC also has FULL RSTS and FULL RSTS/E systems. We called them EDU80 and EDU90 in the last issue. The EDU numbers are no longer used but the description still fits! (We're not sure our prices are still accurate . . . call DEC and see.)

# BUYER BEWARE

BIG $$$$ — EXPANSION COSTS —

We have always suggested buying an expandable system, one that can grow as your needs grow. Planning ahead will save you lots of dollars if our figures are accurate. Look — EDU 250 costs $38,055 new, but if you start with an EDU100 and expand to an EDU250 the cost for the same hardware is $42,367. You save $4312 if you *start* with an EDU250 rather than expand to it and you save an installation fee of $855.
And, Mini RSTS/E (11/40, 16 users) runs $59,865 new. Start with an EDU200 and make the full expansion and your cost is $66,000 plus $985 for installation.



RSTS/E

NOTE TYPICAL PDP TYPE PICTURE

EDU is free again!
Order yours today.

# PCC BOOKSTORE

**FREE LISTINGS FOR SUBSCRIBERS**

Due to almost too much popular demand, we find we are making too many trips to the printer. So we are going to limit the number of free listings to a choice of four.

Select four from this list: NUMBER, LETTER, STARS, TRAP, HURKLE, SNARK, MUGWUMP, BAGELS, BAGEL2 (Beyond Bagels), REVERSE.

Please send one stamped self-addressed long envelope for your four program listings.

### Computers and Computation

*from:* *W.H. Freeman & Company*
*660 Market Street*
*San Francisco, Calif. 94104*

*or*

*PCC Bookstore*

**$4.95**
*1971; 283 pages*

This is the best book about computers . . . what they are, how they happened, how they work and how they are used. *Computers and Computation* consists of 26 articles from *Scientific American*, 1950 through 1971.

### My Computer Likes Me *by Dymax*

*from:* *Dymax*

*from:* *PCC*
*P.O. Box 310*
*Menlo Park, Calif. 94025*

**$1.49**
*1972; 64 pages*

In an easy going, conversational style, this 64 page workbook introduces BASIC to young or old. Designed to be used with frequent access to a timeshare terminal (learn by doing!), we use this large format book in our introductory workshops for people with no previous computer experience or knowledge of programming. The teaching examples are oriented around population problems and demographic data. Over 20,000 of this popular book now in use.

### Problems for Computer Solution

*by Fred Gruenberger & George Jaffray*

*from:* *John Wiley and Sons, Inc.*
*605 Third Avenue*
*New York, NY 10016*

or PCC Bookstore

**$6.95**
*1965; 401 pages*

After you learn to talk to computers, what do you talk about? If you want inspiration, try this book. 92 problems, something for everyone — easy, hard, math, non-math, all beautifully written.

### BASIC Programming *by Kemeny and Kurtz*

*(2nd Edition)*

*from:* *John Wiley and Sons, Inc.*
*605 Third Avenue*
*New York, NY 10016*

or PCC Bookstore

**$6.95**
*1967, 1971; 150 pages*

On the first day, Kemeny and Kurtz invented BASIC. Then they wrote a book. We don't recommend this book for learning BASIC but we do recommend it as a reference guide . . . applications resource . . . idea generator for people who already know a little BASIC.

Here is a sampling of section titles —

**What is BASIC?** What is Timesharing? **String Variables** Curve Plotting **Prime Numbers** Random Numbers **Dealing a Bridge Hand** Knight's Tour **Tic-Tac-Toe — A Heuristic Approach** Tax Depreciation **Critical Path Analysis** String Files **Linear Regression** Electrical Networks **Markov Chains** Polynomials **Marriage Rules in a Primitive Society** A Mode from Ecology **Harmony in Music**

### BASIC *by Albrecht, Finkel and Brown*

*from:* *John Wiley & Sons, Inc.*
*605 Third Avenue*
*New York, NY 10026*

*or*

*PCC Bookstore*

**$3.95**
*1973; 325 pages*

The following is an excerpt from EduHelp, September, 1973 . . . "The book is similar (in style only) to Albrecht's popular Teach Yourself BASIC, but it is much more thorough and better organized. It is designed as a self-teaching text. The self-tests at the end of each chapter are excellent and easily permit the user to review the text on any missed sections, as the answers refer back to the frame number in the chapter. The text is very suitable for any grade level, as the examples are not solely based on math, but are taken from business, social science, humanities and simple statistics. This reviewer believes it will be THE text used in the majority of schools. Get a copy and see for yourself."

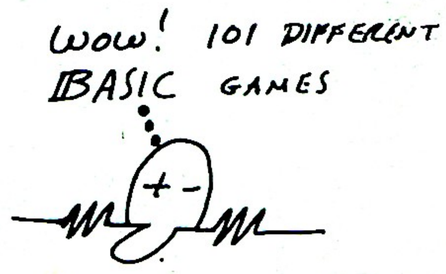
*See Review, PCC Vol. 1, No. 4*

### BASIC Computer Games *edited by Dave Ahl*

*from:* *Digital Equipment Corp.*
*Software Distribution Center*
*Maynard, Mass. 01754*

*or*

*PCC Bookstore*




**$5.00**
*1974; 249 pages*

It's not the first collection of computer games says the intro, nor will it be the last, but we sure recommend it for your library.

### Project SOLO Materials

*Publisher: Hewlett Packard Company*
*Available from PCC Bookstore*

This National Science Foundation Project, directed by Thomas Dwyer of the University of Pittsburgh explored new ways of teaching using computing technology. SOLO produced curriculum material reflects the project's basic philosophy; the computer is a tool to be used and controlled by the student. As such, the computer becomes part of an environment in which students make discoveries.

### tapes

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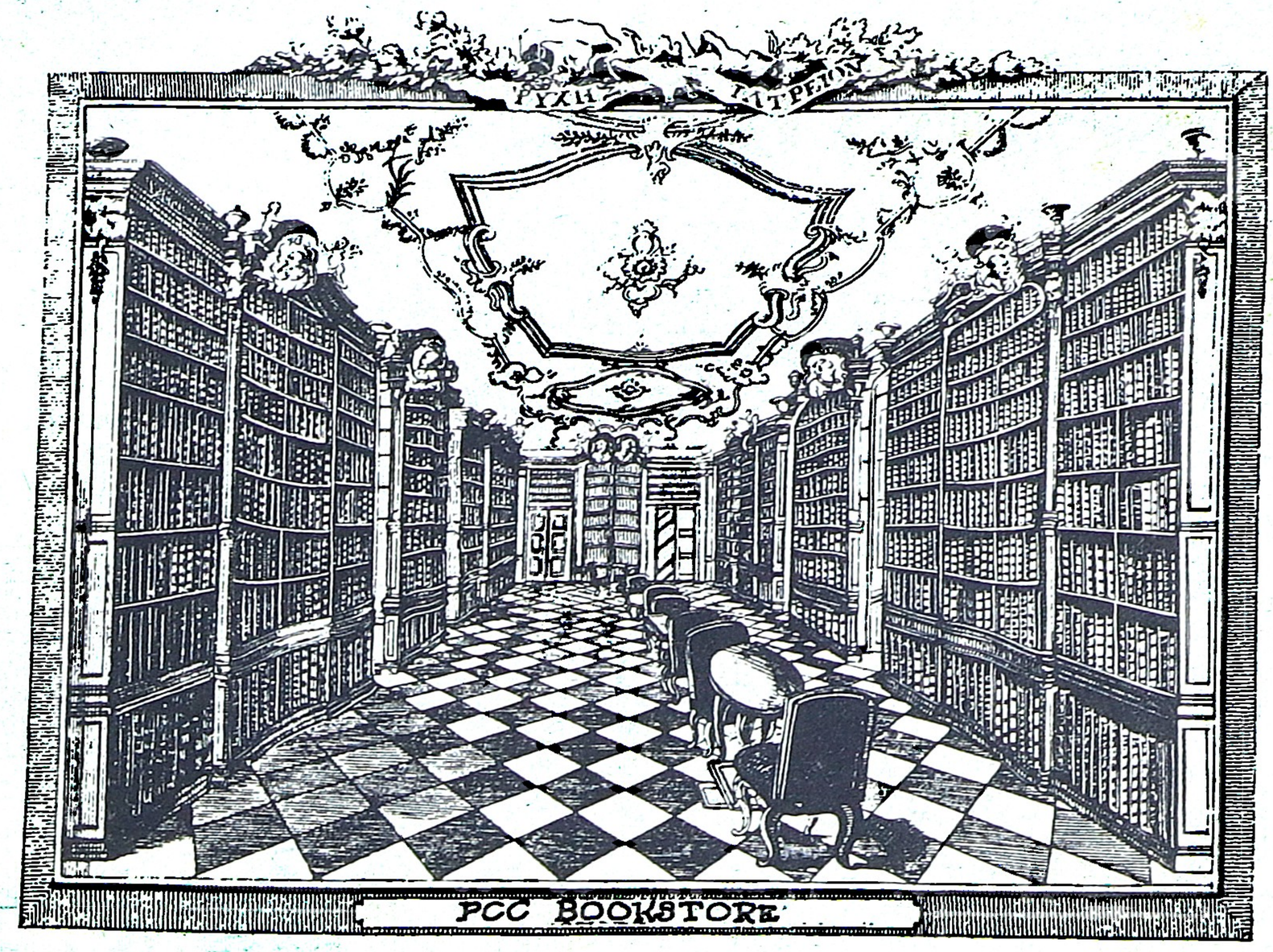
| CAVES 2 | 3.00 |
| CAVES 3 | 3.00 |
| PUBLIC CAVES KIT ** | 8.00 |
| TREE SUBROUTINES | 4.00 |
| HUNT THE WUMPUS ** | 4.00 |
| SUPER WUMPUS ** | 4.00 |
| SUNSIGN ** | 3.00 |
| CHOMP | 3.00 |

** *These program use HP Strings*

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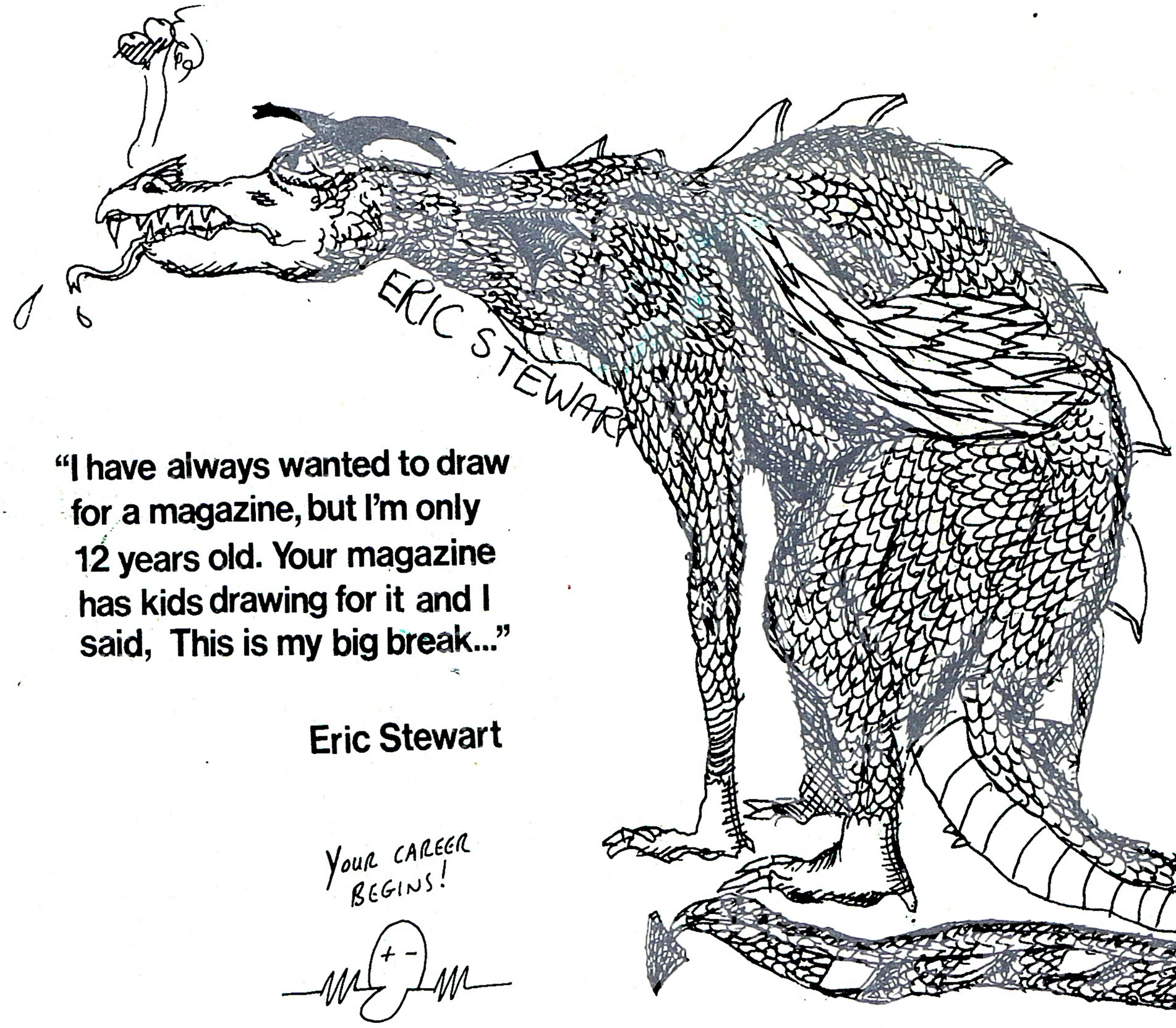
# PEOPLE'S COMPUTER COMPANY




**"I have always wanted to draw for a magazine, but I'm only 12 years old. Your magazine has kids drawing for it and I said, This is my big break..."**

**Eric Stewart**

YOUR CAREER BEGINS!



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